

*national*

# SAFETY NEWS

AUGUST 1954

## THIS MONTH

- Headlines That Aren't Printed
- The Law Down on Noise
- Flood Safety No. 1



TIMBER  
HARVEST



# "Here's why I stayed 70 feet above instead of 6 feet under!"

says Trofin Onofrichuk

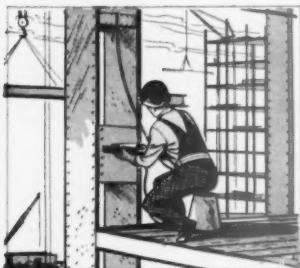
Riveter, American Bridge Division,  
United States Steel Corporation



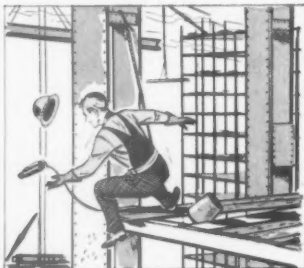
1. "The day it happened, the boss sent us up to the 70 foot level of a new Generating Station in New York to drive some rivets.



2. "When I got there, the first thing I did was secure the tail line from my safety belt to a nearby beam, then I started banging away.



3. "Some of the lower rivets were hard to reach, so I grabbed a bolt bucket from the scaffold and sat down so I could get at them better.

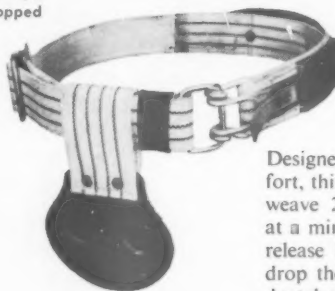


4. "Suddenly, the bucket slipped, knocked a plank out, and down I went—until my safety belt and line stopped my fall and started my luck."



Because American Bridge policy makes it a "must" for all employees to wear safety belts on any job above the ground, this near-tragedy was only an incident on the accident report. Mr. Onofrichuk's injuries consisted merely of "swelling of right forehead, tenderness of right shoulder." In line with American Bridge's practice of retiring all belts subject to strains of the type involved in this incident, Mr. Onofrichuk was issued a new belt. Both the belt that helped save his life, and the new belt, were developed by Mine Safety Appliances Company.

This story underscores again that full-time safety belt protection is good safety sense.



## M·S·A BRIDGE AND STRUCTURAL STEEL WORKERS BELT

Designed for dependability and comfort, this belt is constructed of special-weave 2-inch cotton webbing, tested at a minimum 3200 pounds. A quick-release buckle permits the wearer to drop the belt fast, if necessary. Accidental opening, however, is prevented by a special tongue design. The leather scabbard is removable. All hardware is drop-forged steel, tested to a minimum 5000 pounds.

A complete line of M.S.A. Safety Belts is available to meet your every requirement of type and style. All cotton webbing is specially woven and treated to prevent mildew and resist effects of moisture.



Call the M.S.A. man on your every safety problem . . .  
his job is to help you

## MINE SAFETY APPLIANCES COMPANY

201 North Braddock Avenue, Pittsburgh 8, Pa.  
At Your Service: 76 Branch Offices in the United States  
**MINE SAFETY APPLIANCES CO. OF CANADA, LIMITED**  
Toronto, Montreal, Calgary, Winnipeg, Vancouver, Sydney, N.S.  
Representatives in Principal Cities in Mexico, Central and South America  
Cable Address: "MINSAP" Pittsburgh





**WILLSON**  
**Kover-Mor goggles**  
*Strong...Light...Comfortable*

**Try this pair  
of nylons for longer,  
more comfortable  
service!**

**For Weldors ►**

Willson *Spatterproof*® cover glass protects *Willson-Weld*® filter glass against pitting. (Note four indirect ventilating ports admit ample air but keep out sparks and flashes)



**Style  
CW-70**



**Style  
CC-70**

**◄ For Chippers**

Willson *Super-Tough*® lenses are heat-treated for impact resistance. (Note four screened eye cup ports admit air to keep lenses fog-free)

**Kover-Mor Welding and Chipping Goggles fit easily over larger-frame prescription glasses—use standard 50 mm. round lenses—offer these other new Willson developments:**

1. Lightweight nylon offers *highest strength/weight ratio* known for goggle cups; non-flammable; won't conduct heat
2. External screw caps permit *easier lens changing*—no springs or clamps to remove
3. Standard 50 mm. round lenses make it unnecessary to stock odd-size replacement lenses
4. *Extra ventilation* is provided by slots in screw caps plus ports in cups
5. *Comfortable fit* is assured by adjustable two-piece head-band, leather bridge curtain and rigid metal top bar


**Ask your Willson distributor for new Kover-Mor\* Welding or Chipping Goggles —strongest lightweight goggles you can get —or write for new bulletin.**

\*Trademark



**Notice the rigid metal top bar**  
—standard on Willson Kover-Mor\* Goggles. Makes them easier to handle—holds them firmly in place.

**Easy to get anywhere!**

More Than 300 Safety Products  Carry This Famous Trademark

**WILLSON**  
*Established 1870*

**WILLSON PRODUCTS, INC., 205 Washington St., Reading, Penna.**

# SAFETY NEWS

Published monthly by National Safety Council

AUGUST 1954

THE COVER: Loading a large cedar log at Gray's Harbor, Washington, Division of Rayonier, Inc., with a gooseneck heel boom loader. In the foreground are Ned H. Dearborn, NSC, president (left) and G. M. Rhebeck, Rayonier Timber Department Manager. (Photo by Dan Adair)

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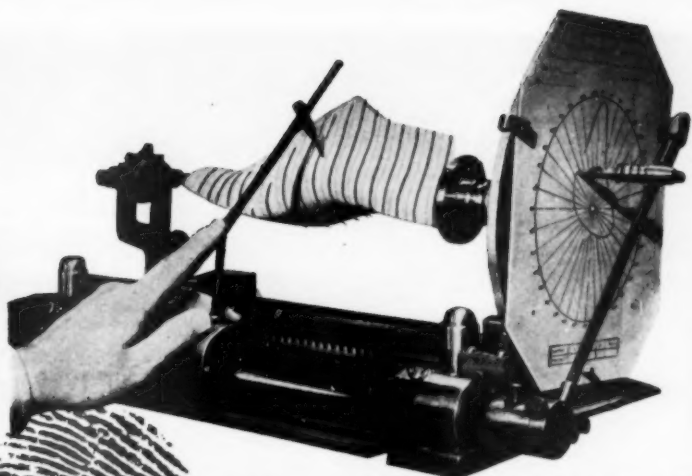
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# feet



## are as different as fingerprints!

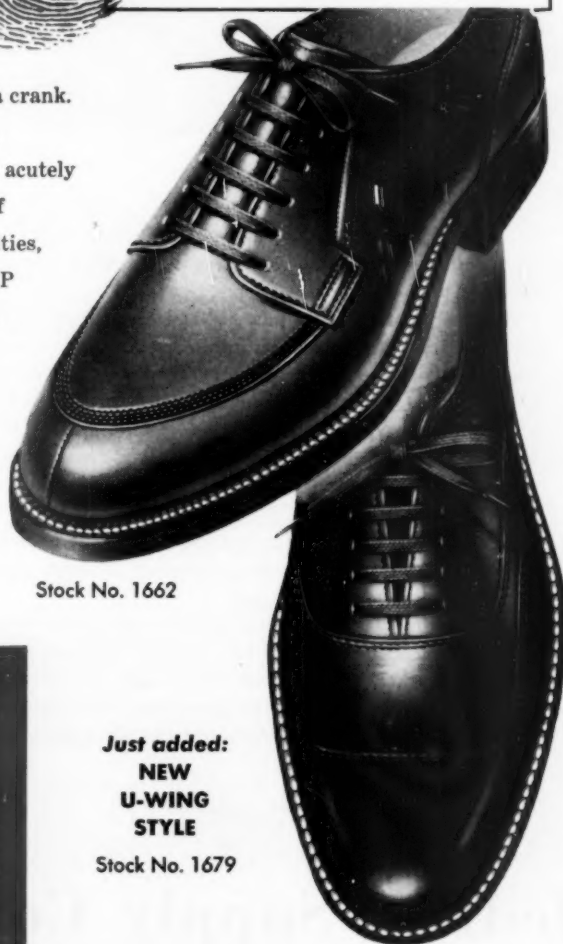


### LEHIGH GUIDE-STEPS

built over special lasts that are Contour-Measured to 1/100th-inch at 19 points instead of the usual 4!

### YOU CAN'T ARGUE

with the man who says regular safety shoes don't fit him. Chances are he's not just a crank. There's a world of difference among feet. And there are tens of thousands of men in industry who suffer acutely in the shoes that feel fine on others. After 24 years of research through one of the nation's leading universities, Lehigh is proud to introduce these new GUIDE-STEP shoes. They contain no pads, buttons, arch-supports or other comfort-gimmicks of the past. They rely on perfected internal contours to fit the foot that could not be fitted comfortably before. They need no "breaking-in". They are designed expressly for the hard-to-fit. But almost every man who tries them on will find them more comfortable!



Stock No. 1662

**Just added:  
NEW  
U-WING  
STYLE**

Stock No. 1679

**LEHIGH**  
**SAFETY SHOE COMPANY**

ENNAUS, PA.



## no. 1030 unit type burn spray packet

with Americaine or Kip Antiseptic Oil



In No. 1030MC  
carrying case

In 16-unit  
first aid kit

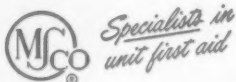


**A**t last there is a way in which you can economically combine your burn spray first aid requirements with your standard unit type first aid kits.

MSco now offers you a practical and highly efficient pressure cartridge spray gun which fits into a six unit size carton, along with ten 2 1/2-ounce refill cartridges containing the burn solution—Americaine or Kip Antiseptic Oil. These packets will fit into any size unit type first aid kit. In addition, the MSco No. 1030 Burn Spray Packet may be carried in a special metal carrying case (No. 1030MC) complete with carrying handle and hanging brackets.

The spray gun is ready for operation merely by loosening the bottom cap of the gun, inserting a pressure cartridge, tightening the cap, and pressing the trigger.

This gun is molded to fit the hand for ease of operation, it is permanent equipment, and refill cartridges may be obtained to keep your packet complete at all times. Each 2 1/2-ounce cartridge will afford excellent coverage for approximately 144 square inches of burned area. Ask your MSco distributor, or write today for complete details.



# Medical Supply Company

ROCKFORD, ILLINOIS  
In Canada, it's Safety Supply Co.



### BURN SPRAY FIRST AID KITS

**quick . . . thorough . . .  
painless . . . sanitary**

Doctors agree that certain basic principles or conditions are present in all cases of burns. The "first aider" is qualified to deal only with the first three: Relieve Pain . . . Prevent Infection . . . Treat Shock. See how fast and effectively this can be done with MSco Burn Spray First Aid Kits . . . the largest assortment ever offered! Ask your MSco distributor for details.





# Air Casualties

*It's bad air that does it. But you can step up production by putting a Coppus Blower on the job to keep the air moving — and keep the men cool.*

The kind of air a man works in has a lot to do with how much work he can turn out.

In confined places like shipholds or tanks or drums or boilers . . . or wherever the air is stagnant or hot or full of fumes . . . a Coppus Blower is a *must* for getting first-class work out of the men, all the time.

A Coppus Blower or Exhauster helps avoid sickness and lassitude due to bad air . . . and improves morale, too.

Portable and adaptable for special purposes, Coppus Blowers and Exhausters will have dozens of uses around your plant. The "Blue Ribbon" (a blue painted band) is your assurance of quality performance at lowest cost.

## COPPUS

BLUE RIBBON BLOWERS



THE BLOWERS THAT PUT MORE MINUTES IN EVERY MAN'S DAY

CABLE MANHOLE AND TANK VENTILATORS — BOILER MANHOLE BLOWERS AND EXHAUSTERS — HEAT KILLERS — SHIPHOLD VENTILATORS . . . DESIGNED FOR YOUR INDUSTRY — ENGINEERED FOR YOU

**MAIL THIS COUPON** To Coppus Engineering Corp., 128 Park Avenue, Worcester 2, Mass. Sales offices in THOMAS' REGISTER. Other "Blue Ribbon" Products in BEST'S SAFETY DIRECTORY.

PLEASE SEND ME INFORMATION ON SUPPLYING FRESH AIR TO MEN WORKING:

- ☐ in tanks, tank cars, drums, etc.
- ☐ in underground cable manholes.
- ☐ in aeroplane fusilages, wings, etc.
- ☐ on coke ovens.
- ☐ on steam-heated rubber processes.

- ☐ on boiler repair jobs.
- COOLING:**
- ☐ motors, generators, switchboards.
- ☐ wires and sheets.
- ☐ general man cooling.
- ☐ around cracking stills.

- ☐ exhausting welding fumes.
- ☐ stirring up stagnant air wherever men are working or material is drying.
- ☐ drying of walls, sheets, etc., after treated with coating material.

NAME .....

COMPANY .....

ADDRESS .....

CITY .....

(Write here any special ventilating problem you may have.)

**FOR INDUSTRIAL  
ACCIDENT PREVENTION**



**NOTICE**  
THIS GATE MUST BE  
CLOSED BEFORE THE  
ELEVATOR CAN BE  
OPERATED

ALL HANDS  
ARE REQUESTED TO  
**HELP**  
KEEP THIS PLANT  
**SAFE**  
AND CLEAN

**A FIRE  
MIGHT PUT EVERY  
ONE OUT OF WORK  
HELP THE MANAGEMENT  
PROTECT YOUR JOB  
NO SMOKING**



**CAUTION**  
— DON'T —  
CLEAN - OIL - REPAIR  
MACHINERY  
WHILE IN MOTION

**THINK**  
SAFETY

THE BEST  
SAFETY DEVICE  
IS A CAREFUL WORKER  
GET THE SAFETY HABIT

**DANGER**  
WEAR GOGGLES  
— WHEN —  
CHIPPING OR GRINDING

**SAFETY  
FIRST**  
*POSITIVELY*  
**NO SMOKING**

**NOTICE**  
**POSITIVELY**  
**NO ADMITTANCE**  
**EXCEPT ON BUSINESS**

Others are important for the protection they furnish, covering such features as Entrance, No Parking, Stop and similar warnings—listed as Miscellaneous signs.

meet them. Shown in full color in our complete 64-page Catalog.





The logo for Stonehouse SIGN features a circular icon with a hand inside, followed by the word "Stonehouse" in a script font and "SIGN" in a bold, sans-serif font.

### "Signs Since 1863"



ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

# Four reasons why Ansul fire protection equipment is faster —more effective!

1.		<b>WEATHER-TIGHT CONSTRUCTION.</b> Ansul extinguishers are water-tight and corrosion resistant, always ready for action even after extreme weathering and exposure to wide temperature variations.
2.		<b>PATENTED NOZZLE.</b> To ensure full fire coverage, Ansul's patented nozzles deliver the right kind of stream for your fire protection problem (low velocity or high velocity, depending on hazard).
3.		<b>SEALED PRESSURE CARTRIDGE.</b> A positive activating system puts Ansul "Plus Fifty" dry chemical to work immediately—no delay. Cartridge replacement in the field is simple, no tools are necessary.
4.		<b>RUGGED CONSTRUCTION.</b> Quality materials and careful workmanship make it possible for Ansul to back their equipment with a 5-year warranty—the only one of its kind in the industry.

## Here is the Big Service Plus offered only by Ansul:

A complete fire protection program  
for your plant and your employees

- Personnel training in your plant by experienced Ansul instructors.
- Customer training school at Ansul plant, Marinette, Wisconsin. Write for schedule and registration information.
- Visual aids for your safety meetings and other training.
- In-plant survey to determine your fire protection needs.

## Call the Ansul Man!

Get in touch with your local Ansul man through the "yellow pages" or write **ANSUL CHEMICAL COMPANY, Fire Equipment Division, Department F-32, Marinette, Wisconsin.**





*New*

## Jackson SAFETY HATS and CAPS — Cap-and-Helmet Combinations

For protection against falling objects and other sudden impact, and against bumping the head in close quarters, the new Jackson Safety Hats are a *safe and sound* investment.

Made of fiber glass plastic, the strongest protective material per ounce of weight, these safety hats surpass all known industrial requirements. They comply with Federal Specifications GGG-H-142b when tested for *electrical resistance*, *impact* (the 8-lb. ball test), *penetration* (the 1-lb. plumb bob test), *flammability*, and *water absorption*. At 14 ounces, *weight* is well below the specified limit.

Two types are available: the full-rimmed *Hat* and the *Cap*, with visor only. Unless otherwise specified, they will be furnished in an attractive, bluish grey. Stocked also in *white, yellow, green, and brown*.

Arc Weldors are offered the choice of the two already popular fiber glass arc-welding helmets, types H-1 and H-2, pivoted to the sides of the Safety Cap. Helmet goes easy *on*, easy *off*. Just slide it in to assemble, push the button to release. Your present helmet, H-1 or H-2, may be utilized by ordering Safety Cap plus Helmet Attachments.

### EXCLUSIVE . . . Headband of Extruded Plastic, Cork-Lined Sweatband

*Plastic Headband allows immediate, positive adjustment, is clearly marked in hat sizes, holds its shape, and gives firm fit on all sizes of heads.*

*Straps of webbing button to inside of hat shell, and provide adjustable support on top of the head. They provide the required safe distance between top of head and hat shell and leave ample room for ventilation all around.*



JACKSON  
SAFETY  
HAT



TYPE  
SH-1

*Strongly ribbed crown design and full brim resist impact from all sides. Fiber glass plastic gives the greatest protection per ounce of weight.*

JACKSON  
SAFETY  
CAP



TYPE  
SC-1

*Identical with the Safety Hat but with only a narrow brim at sides and back, and a visor protecting the face. Weight 12 1/4 ounces.*

JACKSON  
CAP-AND-  
HELMET



TYPE  
SCH-1

*Arc-Welding Helmet, type H-1, pivoted to standard grey Safety Cap. Both are fiber glass of matching design and color. Visor is worn in back.*

JACKSON  
CAP-AND-  
HELMET



TYPE  
SCH-2

*Lift-Front Helmet, type H-2, permitting work inspection without raising of entire helmet, pivoted to Safety Cap. Units are detachable without tools.*

**JACKSON**  
PRODUCTS, INC.  
WARREN • MICHIGAN

Sold World Wide . . .  
through Distributors  
and Dealers



protect against

DERMATITIS



Put Hexachlorophene protection in all your washrooms with Armour antiseptic hand soap!

Keep your employees on the job by providing Armour antiseptic hand soaps to remove the skin irritants that cause contact dermatitis. Even more important, the Hexachlorophene in these Armour hand soaps actually destroys skin bacteria that cause secondary infections!

Hexachlorophene is the first germicidal agent ever found that stays antiseptic in soap. Daily washing with these Armour soaps containing Hexachlorophene will remove up to 95% of harmful skin bacteria! That's real protection for the people in your company and may add benefits in insurance and labor relations, too.

So order Liquid Dial® or powdered Formula #99 for your washrooms today! (You can order the powder form with either Borax or a vegetable scrubber added.) Request the samples and booklet and see for yourself how Armour Hexachlorophene soap protects against contact dermatitis!

**ARMOUR**

*Industrial Soap Department*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

### Mail this coupon today

Armour and Company • 1355 W. 31st St. • Chicago 9, Ill.

Please send me a free sample of:

- ☐ Formula #99 Powdered (with Borax, containing Hexachlorophene)
- ☐ Formula #99 Powdered (with vegetable scrubber, containing Hexachlorophene)
- ☐ Liquid Dial (containing Hexachlorophene)
- ☐ Booklet, "Antiseptic Soaps for Industrial Use."

Name \_\_\_\_\_ Title \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

N8

# Revolutionary advance in slip-proof

*Now on these two  
THOM McAN  
safety shoes!*



Plain-toed blucher boot of soft brown leather. 4 eyelets, 3 hooks for firm lacing. Leather-lined steel toe cap. Oil-resistant "Tri-Vac" Neoprene sole and heel with slip-proof vacuum cups.

#S4111



Plain-toed blucher oxford of fine, red-brown leather. Wing-guard 400 leather-lined steel toe cap. Oil-resistant Neoprene "Tri-Vac" sole and heel with slip-proof vacuum cups.

#S4381

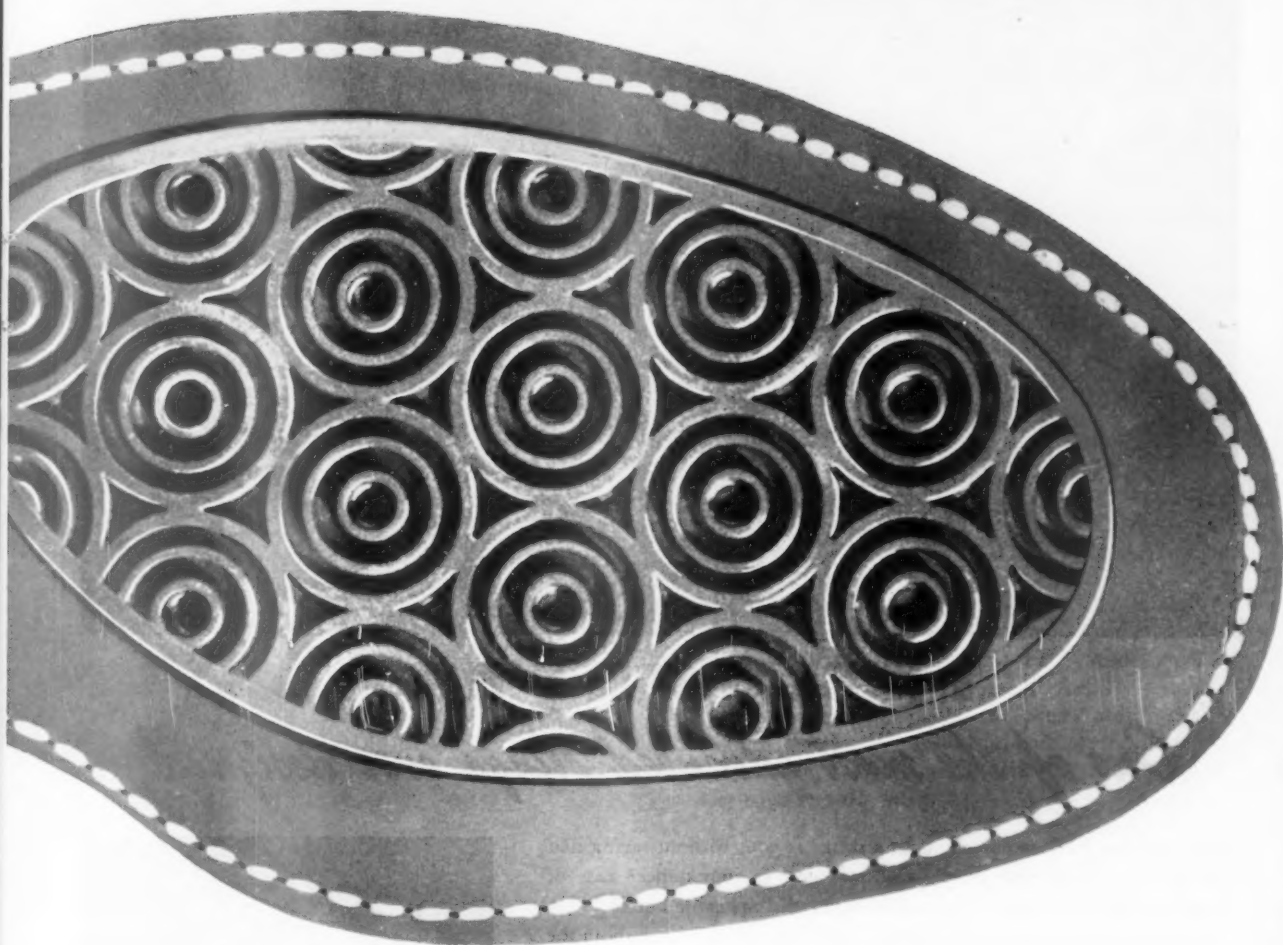
## SOLD 2 WAYS

1. At Thom McAn stores.
2. Direct to your plant.

Write today for details of this last-named service and Thom McAn's 4-way employee purchase plan, plus descriptions of the full line of Thom McAn Safety Shoes to . . .

**THOM McAN SAFETY SHOE DIVISION**  
25 West 43rd Street, New York 36, N. Y.

# soles released by armed forces...



Thom McAn is the first major company with the newest in safety shoes! Now Thom McAn brings you safety shoes that defy the most slippery, skiddy factory floor . . . a drastic advance in plant safety!

These new Thom McAn soles were developed for use on the flight decks of aircraft carriers—the wettest and oiliest, and often the iciest, places on land or sea. They've only recently been released for civilian use . . . but Thom McAn has already brought out two

safety shoe styles soled with this remarkable new supersafe tread.

There's more to it than just the vacuum cup principle. In fact, Tri-Vac protects 3 ways:

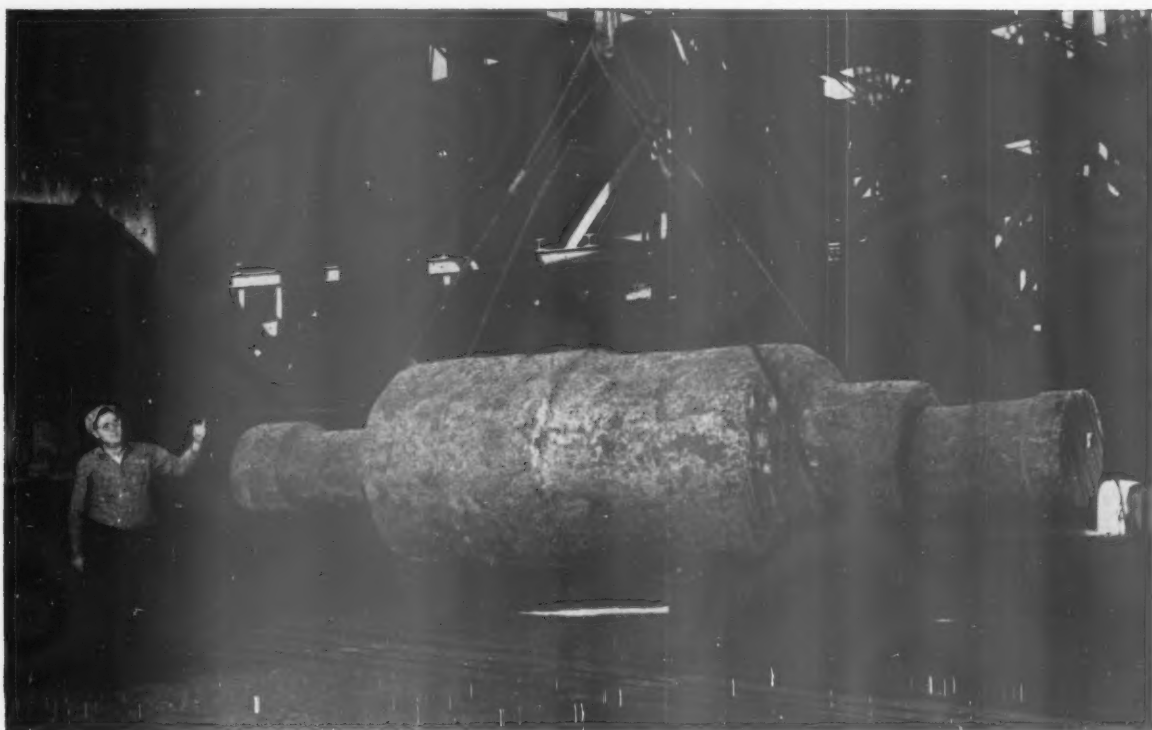
1. Multiple soft ribs provide brake-like squeegee action.
2. Cup within cup construction develops vacuum suction grip.
3. Countersunk channels trap liquids, create safer, drier tread.

How many pairs can your plant use?

## Thom McAn

### SAFETY SHOES

A DIVISION OF MELVILLE SHOE CORPORATION



## THE TORPEDO

*One of the most advanced slings ever designed*

What are your basic requirements in a sling? It goes without saying that strength is number one. But what comes next in importance? Ease of handling? High flexibility? The way it fits around the crane hook?

Since all of these items are important, we'd like to talk a little about the Bethlehem Torpedo. Many shop men consider this one of the finest slings ever developed. It is a sling with several advanced features of design, including a special method of fabricating the eye-loops. Steel collars supplement the holding power of the loops, so that the sling has higher strength than the usual spliced type.

The Torpedo is made of Purple Strand wire rope (Bethlehem's best). And it's furnished with independent wire rope core, which means higher resistance to crushing and distortion.

Finally, every Torpedo has the Form-Set (preformed) construction for added flexibility. This contributes greatly to ease of handling and better "hugging" of loads and crane hooks.

Because of its many fields of application, the Torpedo sling is available in nine different rope diameters ranging from 1/4 in. to 1 1/4 in., inclusive. For more details, ask for Folder 588, or check with our nearest office.



BETHLEHEM STEEL COMPANY  
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



**BETHLEHEM WIRE ROPE SLINGS**  
**MAKE THE TOUGH LIFTS EASY**







MODEL 440



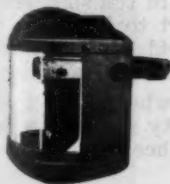
MODEL 438

MODEL 411



MODEL 412

MODEL 425



## Introducing

# PENOPTIC

*Protective*

## FACE SHIELDS

The high quality and performance of Pennsylvania Optical products throughout 67 years of ophthalmic development have been incorporated in these new face shields. The clear or green, metal-bound, acetate windows are non-pitting, flame-resistant. (Bronze fine wire mesh windows are also available.) Each model permits free passage of air about the head . . . can be worn over goggles or prescription eye glasses. Now, Penoptic's manufacturer-to-you distribution policy again offers new opportunities to save with safety.

### CONSTRUCTION FEATURES

- Windows of finest optical acetate provide that extra measure of safety.
- Snap-tight fasteners permit speedy, secure attachment of windows to headgear units.
- Formed fibre crown protectors extend coverage over brow; support windows firmly.
- Disposable sweatbands of absorbent, anti-septically treated paper for new maintenance economy and improved industrial hygiene.
- Fibre headbands treated for moisture-resistance, tough, easy to clean, easy to adjust.
- Plastic sleeves cover adjustable headbands for added smoothness and comfort of fit.
- Adjustable spring tension assembly permits easy lifting of window to raised "off" position; holds securely in lowered "safe" position.

*For Prices And Full Information On Complete Line Of Face Shields Write Directly To:*

*Order Direct  
and Save!*

## PENNSYLVANIA OPTICAL COMPANY

READING, PENNSYLVANIA

*Known For Fine Ophthalmic Products Since 1886*

The *Most Popular* Sole and Heel in the Oil Producing Industry  
throughout the World

U.S.A.  
VENEZUELA  
CANADA  
IRAQ  
IRAN  
SAUDI ARABIA



Available in 14 and 17 iron with matching heel in complete men's size range.



- ✓ LONG WEARING
- ✓ SLIP RESISTANT
- ✓ RESIST  
OIL-HEAT-ACIDS  
CAUSTICS

Acclaimed by oil men the world over, this outstanding sole and heel made by combining duPont Neoprene and cord by the famous Gro-Cord process, outwears all other soles under the most rugged oil field conditions.

Tops in quality and long wear, Neo-Cord soles and heels have a high slip-resistant factor for the life of the sole, give a firm, comfortable support to the foot, and resist the oil — heat — acids and caustics that are so detrimental to ordinary soling materials.

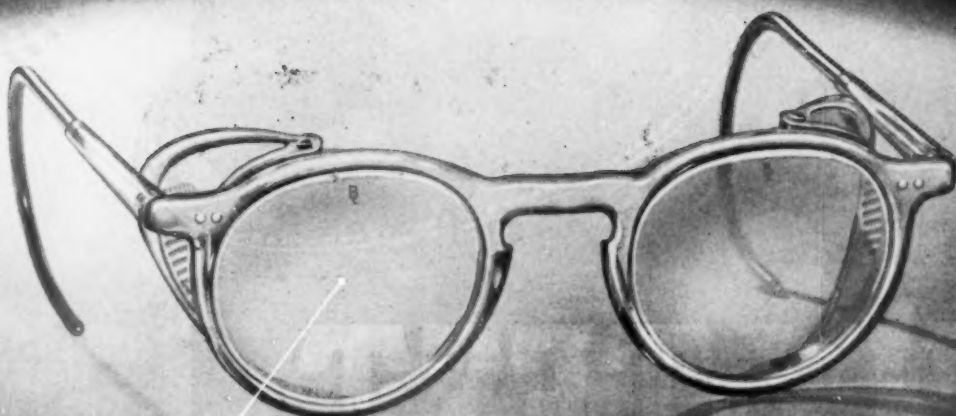
Yes, oil men who know, say — for greater comfort — safety and longer wear, use Neo-Cord soles and heels.



Canadian Plant  
GRO-CORD RUBBER CO. of CANADA LTD.  
Tillsonburg, Ontario



**SAFETY LENS QUALITY IS NEVER A LUXURY**



Bausch & Lomb Z-79 all-acetate safety frame with Bal-SAFE lenses



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AUGUST 1954

## SOMETIMES, WE'RE GLAD TO BE WRONG

WHEN the accident score for the Fourth of July week end was added up, 348 lives had been added to the nation's traffic death toll for 1954. Certainly, that record is nothing to brag about. But the total, thank heavens, was considerably short of the National Safety Council's prediction of 430 fatalities.

The Council, of course, is very happy about this. For, after all, a reputation for pin-point prediction is of no importance. The saving of 82 lives is. Over Memorial Day week end, when our forecast of 340 deaths was topped by 22, there was gloom at 425 North Michigan.

For ten years or more the Council has been making pre-holiday estimates for the five major holidays—Memorial Day, Independence Day, Labor Day, Christmas and New Year's. Few safety releases get such wide circulation. Newspapers play the story big and whenever you turn the dial on radio or TV you are almost certain to run into a comparison of the estimate and the actual traffic toll.

Our statistical and public information staffs do not pretend, of course, to be crystal gazers or astrologers. Their estimates are based on such practical factors as current traffic trends, records of previous holidays, weather outlook, etc.

The weather, as the experts at the Weather Bureau and the publishers of the *Old Farmer's Almanac* know full well, is as uncertain as human behavior. Fair and hot weather brings out everything on wheels, with Sunday drivers admiring the scenery while straddling the center line. In fact, anyone who has had car after car swoop past him on the way home after a holiday may well wonder if anyone is going to make it home in one piece.

Undoubtedly, the records of previous holidays and the frequent reminders by various media had a sobering effect over the recent holiday. Press, radio and TV performed a valuable public service.

Private fireworks, once a tradition of the Fourth, have become a minor source of injuries. This progress is lamented by some, but not by those who remember the youthful victims of the old "Glorious" Fourth. Aroused public opinion forced this change.

Bringing traffic accidents under control will be far more difficult. Motoring is a vital and necessary part of the current way of life, and people, particularly city dwellers who are cooped up in apartments, offices and shops, naturally try to make the most of a few hours of freedom. Available horsepower presents the choice of rigid self-discipline or appalling losses of life and property.

One recent letter denounced the Council as a prophet of gloom, pointing to the lower toll as evidence that we were trying to scare people needlessly for dubious and selfish reasons.

The exact opposite is true. The Council hopes constantly that its statistical estimates will be far too high, and it firmly believes that the lower Fourth of July toll was due to the fact that drivers heeded the constant warnings.

In a few more weeks the public will be having its last fling of the season at mass outdoor recreation. We hope that the Labor Day holiday traffic record will again prove that we were too pessimistic.

Everyone is cordially invited to make our estimators look silly.

# The Headline That Isn't Printed

By CHARLES R. BROWN

**Not the least of accident prevention's contributions to good public relations is the bad news kept off the front page**



CHARLES R. BROWN is Vice-President, Tide Water Associated Oil Company, San Francisco. This article has been condensed from an address before the Oil Industry Regional Safety Conference, sponsored by Western Oil and Gas Association, Berkeley, Calif., June 1-2, 1954.

**T**HE PRESS is seldom enthusiastic about a good safety record. But a major fire, a serious accident or a disaster of any kind immediately becomes a headline story. The accident prevented is not news; the one that took place stares boldly from the headlines of our daily newspapers.

Actually, one of the most important contributions a safety program can make to good public relations is the bad headline it can prevent.

An essential feature of a successful safety program is well-founded, effective publicity, with repeated emphasis on the fact that working safely is an important part of each employee's daily assignment.

Safety and public relations have another factor in common; until recent years both were pretty much neglected.

Before inaugurating a program to establish good public relations through safety, we should give serious consideration to the fac-

tors which form an integral part of such a program.

In the oil industry, any major accident, primarily because of its unusually spectacular nature, receives wide publicity. This type of publicity naturally has an adverse effect in the eyes of the public. A single major accident, for example, might wipe out all of the value of the year in and year out "outstanding safety programs;" of the million-hour "no accident" awards; of the thousands of dollars spent annually for in-plant accident prevention.

We may easily visualize the scene at one of these major disasters such as that which occurred in Texas City. Newsreel cameramen, newspaper photographers and press reporters milling about in the crowd, pressed at a gate or along a fence, seeking "human interest" angles. The news photos and newsreels and news stories all too often overlook completely the years spent in building confi-

dence and goodwill by the company concerned. Imagine, if you will, the effort and money that must necessarily be expended to offset such a disaster and rebuild public confidence.

At the time of a disaster of this nature, the public relations people must be prepared to act immediately. They must be able to initiate a concentrated and effective action designed to nullify the effect on the public of the accident and its consequences. Every facility of the company must be brought into play to provide information to the anxiously awaiting community. An immediate preliminary survey of losses must be made public to relieve a large portion of the unnecessary anxiety. The fullest possible understanding of the plight of the onlookers and

the unpredictable nature of human emotions at a time of disaster must be integrated into the company public relations planning.

Slow or unsure public relations action can only result unfavorably for the company. When replacements are necessary, it may be difficult to find the right type of men, since their wives and relatives may have been affected adversely by the actual or implied report that the company was a "hazardous" or "heartless" or "cold-blooded" place to work.

Also, slow or unsure action may later be reflected in the attitude of current employees and of their families and friends. This may result in the temporary or permanent loss of the good will of the strongest allies of management in time of disaster.

Relations with the press are extremely important at the time of a major disaster. Cooperation with news reporters, radio broadcasters, and television representatives, to the end that they are given, promptly, essential data and information concerning the disaster, may well be instrumental in avoiding unnecessary playing up of the "sensational" or morbid side of the story.

In addition, it will establish confidence in the integrity of the company. In one recent incident, involving an oil fire, the press, the radio and the television people, on the spot, received the story as to how the fire started, how it was fought, and how it was extinguished. The television audience saw the flames shoot skyward; they saw the employees, many of whom were neighbors, calmly going about laying hose, directing streams of foam on the fire, as if they were performing their normal duties. There was no panic, no confusion, no tragedy. Yet there was news, and film, demonstrating that oil fires can be extinguished as easily and as efficiently as those involving less flammable items.

Because of the publicity given to accidents, fires, and explosions by such nationally known organizations as the National Safety

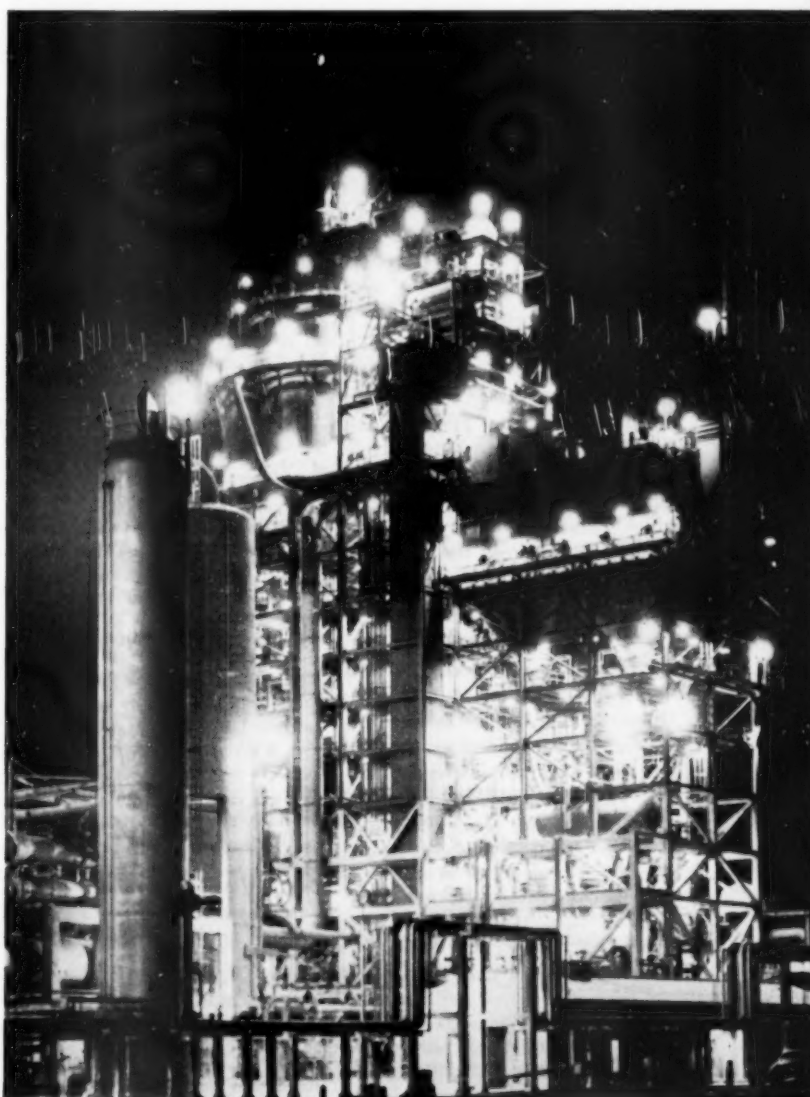
Council, the Underwriters, and the National Fire Protection Association, the press is interested in the progress made by the petroleum industry in reducing accidents. And because such accidents, through improved safety programs, are becoming fewer and fewer, they are increasing in news value. As previously mentioned, the petroleum industry, in such

circumstances, by cooperation and farsightedness, may capitalize on the public relations value involved.

Last year, in sessions of the Petroleum Section at the 41st National Safety Congress, Mr. Don Knowlton, of Hill & Knowlton, public relations counsel at Cleveland, Ohio, presented a very interesting paper entitled "Good

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Everything about the petroleum industry is spectacular—its operations, its equipment—and its accidents. Below is a night view of the fluid catalytic cracking unit at Avon Refinery of Tide Water Associated Oil Company.



"The time has come,"  
the Walrus said,  
"To talk of many things . . ."



# Accident Costs Are Many Things

And frequently they add up to more than the profits

By PAUL W. BEEDLE

**I**N industrial safety, as in *Alice in Wonderland*, "The time has come to talk of many things . . ."

These "many things" are the fallacies, half truths and platitudes which haunt all too many accident-prevention meetings, whether they are between two or more top executives, the new employee and his trainer, or anywhere in between.

## A. Too Many Accidents . . . So What?

Among the reasons why we don't get around to offsetting hazards and unsafe work-habits is the fact that we all too often feel that:

1. Accidents can't be prevented without hindering production.
2. Accidents should never occur—so we don't like them—so we'll just ignore them.
3. Accidents are negative—let's "accentuate the positive."

PAUL W. BEEDLE is an engineer with Wolf Management Engineering Company, Chicago.

4. Accidents "are not our fault—the designers, the engineers—well, somebody else, anyway, shouldn't have gone away and left us stuck with something unsafe. They should have known better."

5. If we spend time on non-essentials like safety, we just won't get the work out.

6. All the safety man says is, "That's dangerous, don't do it." But when you ask him how to correct it, his parting shot, as he makes his getaway, is: "That's your job."

7. Up to now, nobody has really been interested in stopping accidents.

8. What do we care? We carry insurance.

9. It's the dumb help—they never do anything the way we tell them.

10. What can you expect? We pay the help to hurry and penalize them if they take time to be careful.

11. Suppose you do do something—you just get hell for not doing something else.

12. And so to ad infinitum—which might mean to the end of time.

The lesson in this is, listen with both ears, then sit down and think until you have spotted *all* the fal-

lacies, then go do the best you can to offset the fallacies, and more and more of the accidents just won't happen.

## B. Costs Are High

"Even the experts haven't agreed yet on costs, so how can we accomplish anything worth while?" This old alibi is still around. Of course, the layman who has a consistent enduring interest in his fellow-workers and in keep *all* his costs under control can do *much* of what needs to be done. He can use his experience with each accident that he studies or hears about or that he can anticipate, to tell him what all the cost factors are. This won't do much good, of course, if he stops thinking when the first few factors slip into his mind. The good ones don't come easy—they have to be "dug."

If he has had any experience at all with accidents and has any memory or imagination, he can quickly prove to himself that the



costs are high. Whether the hidden costs are four or five or seven times the costs we see, is really beside the point. Even if the hidden ones were only a small fraction of the visible costs that would still be too high.

One reason accident costs are high is that, when those who should be making the greatest effort to control them finally get around to studying them, they quickly discover among the numerous hazards and bad work habits from which accidents result, several they have known about for a long time, but which are tough to overcome. Saying it differently, accident-cause-prevention is not easy. It gets one into complicated situations so quickly that the best thing to do if you like quick, easy "outs" is to withdraw before the going gets tough.

If, on the other hand, you do have the stamina to stay by the problems of accident-prevention until you have done all you can do, you will be well compensated, both in money saved and in personal satisfaction. Then if you do need expert assistance you will be able to make the best possible use of it.

The costs of accidents, that is, all of them, frequently add up to more than the profits. In other words, the profits of many firms could be doubled just by cutting accident costs to the lowest practicable level.

Another reason why they are so high: So many people believe that there is some kind of invisible boundary which separates their work from the private territory of somebody else (just anybody else). These people are also the ones who seem to think (if that's what we should call it), that if an accident happens it is just due to "bad luck." From a different slant, they think that no-accident luck is normal. Careful analysis of a few accidents would convince even an habitual gambler that it is normal for accidents to happen—they must be expected, anticipated, prevented. It is indeed a sad commentary when we have to admit to failure

## Let's Face It!

**W**HY are you safety guys always askin'—"How are we gonna sell these workers on safety?"

What's to sell? Why are you trying to make a Federal case out of it?

As I see it, one of the primary reasons people don't accept things is because they don't understand them. Or, there's not enough tangible showing to generate interest in it.

You're sure not gonna sell me a bill of goods on anything until you first let me know what it's all about, and I see what I'm gonna get out of it. I'm not gonna be able to determine "What's in it for me" either until you educate me on the subject.

And, another thing. I'm not gonna be excited much about all this raving about "think of the family," "watch the eyes," "be careful of the toes," etc., etc.

Sure, I don't want to get hurt, and I don't want to hurt the family, intentionally. But, hell, I know lots of guys as well off as I am who have parts missing here and there. Besides, I don't mind taking a chance occasionally. A guy may get caught now and then, but most of the guys go on for years with nothing really serious happening to them. After all, just plain living is a gamble these days.

Now, I'm primarily interested in the present. I don't make enough money to save much for the future, so I'm gonna live it up now. Besides, I'll get social security at 65—and I'm not really sure I even want to live that long.

Now, if you can show me how I'm gonna benefit right now, say, every minute of the day, doing things a safe way—maybe I'll listen. You don't have to sell me anything! You just lay out the facts and I'll do the selling to myself, if need be. I got brains.

As I see it, if you do the job the right way, there won't be any accidents.

All I want you to do is show me the right way, Mac. You don't have to sell me anything.

ROBERT D. GIDEL, *Senior Engineer,*  
*Industrial Department, National Safety Council*

to "see" accidents before they cause all the suffering and loss that we now permit.

The posterior aspect of this article consists of a brief check list of the principle cost factors. Your own list could help you even more.

### C. Accidents Are Everywhere

Accidents are no respecter of persons. They are everywhere because they result from an unanticipated combination of causes, many of which may be unknown. These causes are constantly being combined in differing arrangements in

each job situation. Still another reason, most of us like to think that we are so smart that we can look at most any job and "see" all the hazards and combinations of hazards. You might say we love to "over-simplify" every dangerous situation. Then we say ever so blithely, "Oh, I'll be O.K. It's the dumb clucks who get hurt." Seasoned gamblers analyze the odds against them because the factors are all known and can be expressed mathematically. We slip "out of this world" too, when we

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The noise of a busy plant is music to the ears of the manager . . .



Until he gets the bill for compensation awards to deafened employees

# The Low-Down on Noise

By EDWARD P. MacKENZIE, M.D.

Noise may be a menace or just a nuisance but the prospect of heavy damage awards should spur effort to keep down decibels

**I**N 1883 a supposedly sleeping volcanic island near Java suddenly blew its top with a noise heard around the world. Workman's compensation records fail to reveal a single claim filed for hearing damage resulting from that tremendous sound. It remained for some individuals in the United States, some 70 years later, to conceive the idea of requesting monetary remuneration for listening to loud noises.

The problem of noise is one we have been aware of for a long time. There is no definite

evidence that it causes fatigue or nervousness, but we frequently say, "That noise is enough to drive a man crazy." Certainly, noise can be distracting and it follows that there could be a decrease in working efficiency because of it. For this reason alone, something should be done about noise abatement, but as usual, a hard blow to the check book is necessary before any action is taken.

Management—that all-inclusive term used to denote anyone from the chairman of the board to the foreman with the least seniority—is interested in production and profit—two factors without which industry cannot survive. The safety engineer must be equipped to combat all of the costly nuisances that arise in and as a result of industry. Noise is one of these nuisances.

Since a man can be hurt with a loud noise just as much as by a falling beam, it is largely the job of the safety engineer to attack it.

Noise means different things to different people, and to the same person under different situations. The noise of a busy plant is music to the ears of the manager—until he is presented with the bill in the form of compensation awards to employees with industrial deafness.

For this individual there has been a radical change in the meaning of that noise. It has changed from a lullaby to a nightmare.

The nuisance cost of noise is just as great, and here again the emotional factor plays a large part. One indignant householder can arouse a whole neighborhood, particularly if jealousy or vin-

Dr. EDWARD P. MacKENZIE is Medical Director, Kaiser Motors Corporation, Detroit, Mich. This article has been condensed slightly from an address at the Greater New York Safety Convention, April 9, and the Michigan Safety Conference, Detroit, April 22.

dictiveness is combined with ignorance and superstition.

In one case, a whole township was stirred up, ultimately resulting in appearances before the state legislature. In most instances, the motivation driving such campaigns is not revealed in the arguments put forth. The ultimate basis is usually some basic emotional response which in the cold light of fact has no real foundation.

The safety engineer may be called upon to deal not only with in-plant noise but also with his neighbors who may be a bit difficult? And he should be fully acquainted with the basic physics of sound—its origin, propagation, and behavior.

Basically, sound is vibration, molecular motion in an elastic medium, caused by a repetitively acting force causing alternate waves of compression and rarefaction in the medium. The loudness of the sound is a function of the magnitude of the force and the amplitude of the resulting wave.

To man, the frequency of repetition is important in the range of 30 to 50 cycles per second and approximately 15,000 CPS. This range is the normally audible spectrum of sound. Below, individual pressure waves are felt rather than heard and above 15,000 is inaudible to most of us. Frequencies



Illustrating a well-known principle of physics. The repetitively acting force causes alternate waves of compression and rarefaction.

above 15,000 are not to be entirely disregarded of course. They have some importance in the make up of noise and tonal quality.

The nature of the medium governs the velocity of propagation of sound waves. The more the molecular mass of the medium, and the less the elasticity, the less easily the sound is transmitted. When a wave is transmitted from one medium to another, some of the energy is lost and dissipated in the form of heat.

This phenomenon is demonstrated by the killing of small furry animals by high intensity, high pitched and high energy sounds. They are literally roasted in their own fur. Homo sapiens, except the more furry variety, have nothing to fear from the supersonic death ray.

Like all particulate waves, sound waves are reflected. Actually, the to-and-fro movements of the particles in the medium are very slight, but they behave in the same fashion as if they were large.

Sound can also be refracted, although for practical purposes this is not so important as diffraction in our work. One must bear in mind the fact that sound follows all the laws governing behavior of waves—acoustic, electromagnetic, or mechanical.

Important in the study of sound and noise is the phenomenon of phase, which is the instantaneous angular relationship of one wave to a starting point or to another wave of the same frequency. The course of two cars can be used to illustrate this principle. If they proceed on regular courses of the right phase, sooner or later, collision is inevitable.

If phase is combined with reflection, a standing or stationary wave is obtained. If a satisfactory resistive termination is provided for a wave, its energy is all dissipated in the termination. Whereas, if a highly reactive termination is provided, most of the energy is reflected back, forming the standing wave.

This principle is readily demonstrable with a piece of string 6 to 8 feet long. If one lets one end

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One angry householder can arouse the neighborhood.



This example needs no further explanation.



Leo Price, highclimber at Rayonier's Sapho Camp, pauses on his way down a giant fir he has just topped. Saw and axe are hanging safely below. Mr. Dearborn, in foreground, is fascinated by the whole procedure. This "show" was about 12 miles from Sapho headquarters at 1800 feet elevation. Private road was well surfaced and drained, with grades up to 12 per cent.



Transferring truck load of logs to standard railroad car. Not many years ago logs were reloaded one at a time. Now, trucks can handle a railroad car of logs. Rayonier has 161 miles of standard gauge railroad with 16 locomotives. There are 314 miles of private trucking roads in its Olympia Peninsula operations. Bob Cunningham is logging superintendent of the Clallam Division.

# DEARBORN GOES LOGGING

**A Picture Visit of  
Rayonier Logging  
Operations**

**By DAN ADAIR**

DAN ADAIR is Senior Engineer, Industrial Department, National Safety Council, and Staff Representative, Wood Products Section.

**T**HE HIGH injury rate of the logging industry has been getting personal attention from NSC president Ned H. Dearborn.

Successful techniques of preventing logging accidents used by Rayonier Incorporated were observed first hand by Mr. Dearborn May 25 and 26 on the Olympic Peninsula of the State of Washington. Rayonier, producers of dissolving pulp (used for rayon, acetate, cellophane, plastic, etc.) is one of the principal logging operators on the West Coast.

The party was composed, besides Mr. Dearborn, of Jack T. Kidney, manager of employee services for Goodyear Tire and Rubber Company, the writer, and

Rayonier executives. Dearborn and Kidney both spoke at the Forest Products Safety Conference in Seattle.

The well-organized tour was directed by two-way short wave radio which Rayonier operates between headquarters and company vehicles.

About 700 loggers work in Olympic Peninsula operations.

All of the supervisory staff and three-fourths of the workmen are first-aid trained.

The injury frequency rate is less than one-third that in effect when Rayonier purchased these timber holdings in 1915 and is currently one-third of the state average.





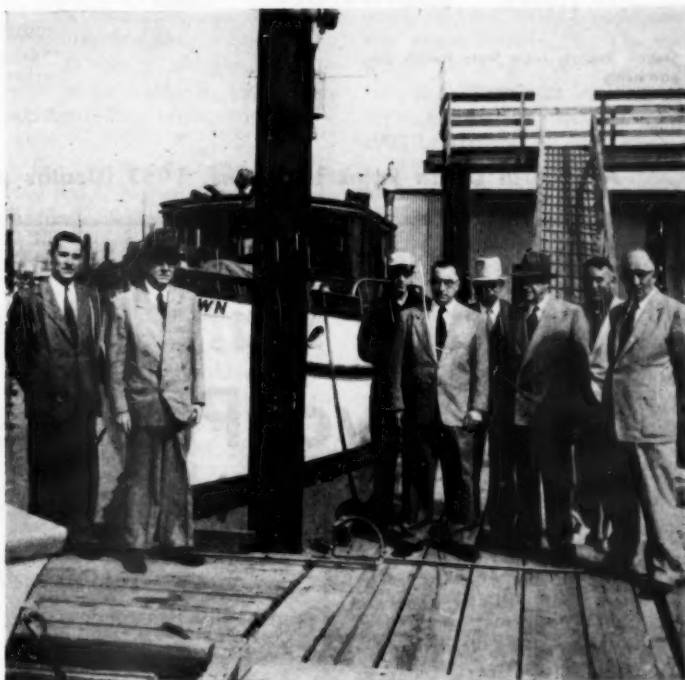
Fred Kulow (left) and Phil Atkinson, bullbuckers (foremen fallers and buckers) demonstrate felling a tree with power chain saw. Here Atkinson is putting in undercut to control direction tree will fall.



Rayonier's logging safety supervisors drive these two-way radio-equipped station wagons. Here are Chuck Creelman, safety supervisor, and Bennett Ellington, logging superintendent, Grays Harbor Division.



"Boy, am I all in!" Up at daylight and conferences every night. Mr. Dearborn gets a few minutes' rest when it's all over.



A yacht cruise in the Straits of Juan de Fuca was worked into the busy schedule on Sunday afternoon. Left to right: Robert M. Gilmore, Rayonier general safety supervisor; Mr. Dearborn; our pilot; Jack T. Kidney, Goodyear Tire and Rubber Co.; Henry Sprague assistant manager, Rayonier's Port Angeles mill; M. B. Houston, assistant to the president, Rayonier; J. K. Lewis, logging safety supervisor, and Frank Barton, safety supervisor, Rayonier's Port Angeles mill.

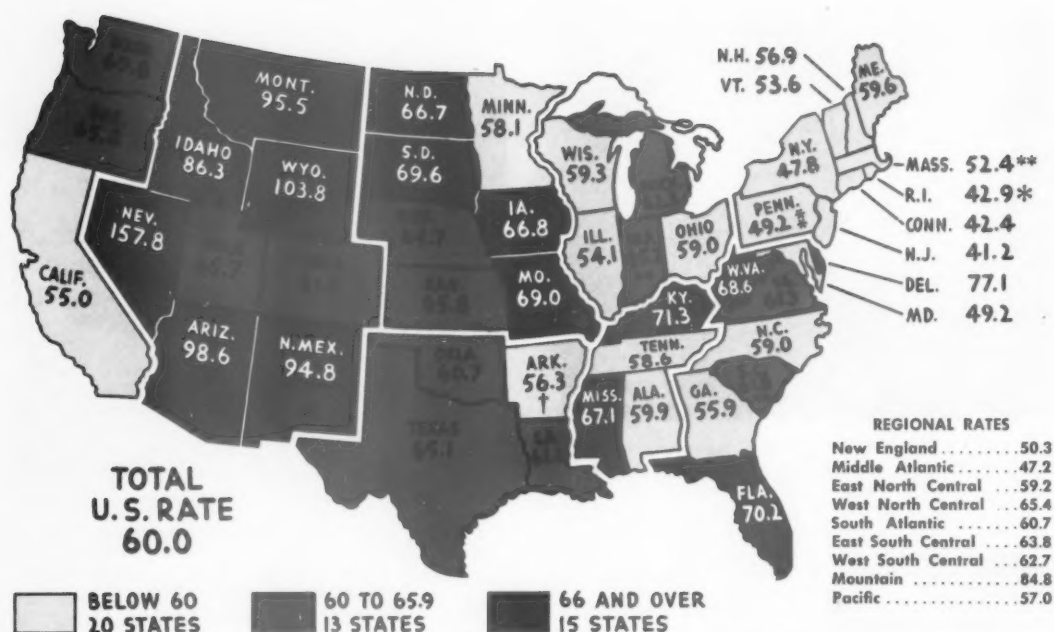
The company has won three consecutive awards from Pacific Northwest Loggers Association.

A joint labor-management central safety committee, thorough supervisory training and strong top-management leadership are key reasons for the results.

Bob Gilmore, general safety supervisor, just completed a year as chairman of the Forest

Products Safety Conference and is currently a member of the board of directors of the Washing-

ton State Safety Council and vice-chairman, Wood Products Section, National Safety Council.



\* Source: Reports from State Health Departments

\*1951 National Office of Vital Statistics data

\*\*Estimates based on incomplete information

†1952 based on deaths as reported by the states

## Accidental Death Rates by States, 1953 (Deaths per 100,000 population)

# Death Rate Down Two Per Cent

Fatality rates for 1953 among lowest yet recorded

By A. D. BATTEY

**T**HERE were approximately 95,000 accidental deaths in 1953, a decrease of 1,000 from the 1952 total. The 10-year change from 1943, allowing for changes

A. D. BATTEY is a Senior Statistician, National Safety Council, and editor of *Accident Facts*. This summary of the accident experience of 1953 is based upon *Accident Facts—1954 Edition*, the Council's annual compilation of essential information about accidents. This booklet was recently distributed to members.

in classification methods, was an increase of 1 per cent.

The 1953 accidental death rate was 60.0 per 100,000 population, with no adjustment for changes in the age distribution of the population since 1940. If such adjustment is made, the rate drops to 58.4. The change from 1952 for the adjusted rate was a 2 per cent decrease.

The 1953 crude rate is the lowest on record; the adjusted rate is the lowest except for 1949 and 1950. Direct comparison with years before 1948 cannot be made because of changes in classification methods, but allowing for those changes, the 1953 crude rate was 30 per cent less than the 1903-07 rate. If deaths from motor-vehicle accidents — which

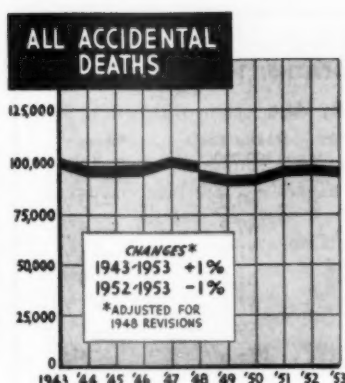
were rare in 1903-07—are omitted, the death rate for other accidents showed a decrease of more than one-half by 1953.

Only two disasters in 1953 caused more than 100 deaths—the May 11 tornado in Texas, and the June 8 series of tornadoes in Michigan and Ohio. In accidents resulting in 5 to 100 deaths the 1953 death toll was about 1,550 or 250 more than occurred in such accidents in 1952, according to tabulations of the Metropolitan Life Insurance Company.

Nonfatal injuries in 1953 are estimated at about 9,600,000. Approximately 350,000 of the injuries resulted in some permanent impairment, ranging from the loss of part of a finger to total crippling. The remaining injuries resulted in temporary disability extending beyond the day of the accident, but in many cases to only a few days.

#### ACCIDENTS vs. DISEASE

Detailed information on deaths from disease is not available for 1953, but it is reasonably certain that accidents held the same position as in 1951. In that year the crude death rate for accidents was approximately 63—the fourth highest rate for any cause. The leading cause was heart disease, with a death rate of 356. Cancer was second, with a rate of 141, and vascular lesions of the central nervous system were third with 107.



Sixteen years earlier, in 1935, pneumonia and nephritis had death rates considerably higher than the accident rate, but by 1951 the pneumonia rate had dropped 60 per cent and the nephritis rate 42 per cent as a result of new medicines and improved medical techniques.

From age 1 to age 36 there were more deaths in 1951 from accidents than from any other cause.

The 1951 accident rate for males was much higher than that for females—88 compared to 37.

For males, only heart disease with a rate of 426, cancer with a rate of 145 and vascular lesions with a rate of 105 outranked accidents as a cause of death. Among females, also, only three causes had higher death rates than accidents: heart disease, 287; cancer, 136; and vascular lesions, 108.

For males alone accidents were the leading cause of death from age 1 to age 37.

**Costs.** Accident costs that can be estimated totaled approximately \$9,700,000,000 in 1953. Wage loss, including the present, or discounted, value of anticipated future earnings for deaths and permanent total disabilities, was about \$3,300,000,000; medical expense, \$700,000,000; overhead cost of insurance, \$1,700,000,000; property damage in motor-vehicle accidents, \$1,600,000,000; property damage in fires, \$865,000,000; indirect costs due to work accidents, \$1,500,000,000.

#### AGE DISTRIBUTION

In 1953, as in other years, the best accidental death record was for children 5 to 14 years old. The death total was 6,000, and the death rate per 100,000 population was approximately 21. The rate was 5 per cent below the 1952 rate, and 52 per cent less than the average rate for the five years 1903 to 1907.

The largest accidental death total, and the highest rate, was recorded for persons 65 years old and older. Deaths numbered about 26,200, and the rate was 197. This was 4 per cent less than the rate for 1952; and 17 per cent below the 1903-07 average rate, after allowing for classification changes.

In the age group 25 to 44 years the 1953 rate was 48, a 1 per cent decrease from 1952, and a 45 per cent drop from 1903-07. For children under 5 years there were 50 deaths per 100,000 population, a decrease of 4 per cent from 1952 and 47 per cent less than for 1903-07. Persons 15 to 24 years old had a 1953 rate of 62—the same as in 1952 but 9 per cent under the 1903-07 average. Among people 45 to 64 years old the rate was 59, a 4 per cent decrease from 1952, and a 43 per cent drop from 1903-07.

#### Regional Death Rates

Of the 46 states reporting accidental deaths in 1953, 18 had death rates below 60, 13 had rates

#### DEATHS AND DEATH RATES OF WORKERS BY MAJOR INDUSTRIES, 1953

Industrial Group	Total Deaths	Deaths per 100,000 Persons	No. of Workers per Death
Mining, quarrying, oil and gas wells .....	900	107	930
Construction .....	2,500	81	1,250
Agriculture .....	3,800	59	1,700
Transportation .....	1,400	44	2,250
Public Utilities .....	300	22	4,500
Service .....	2,300	16	6,300
Manufacturing .....	2,400	14	7,100
Trade .....	1,400	12	8,200

## TRENDS IN ACCIDENTAL DEATHS, 1952 TO 1953

TABLE I—By Age

Age Group	Total Deaths	Deaths per 100,000 Persons	Change in Rate from 1952
All Ages	95,000	60.0	—3%
0 to 4 years	8,700	49.9	—4%
5 to 14 years	6,000	21.4	—5%
15 to 24 years	13,000	61.8	0%
25 to 44 years	22,000	47.6	—1%
45 to 64 years	19,100	59.1	—4%
65 years and over	26,200	196.6	—4%

TABLE II—By Type

Type of Accident	Total Accidental Deaths	Death Rate per 100,000 Population	Change in Rate from 1952
Motor-vehicle	38,300	24.2	—1%
Falls	20,500	13.0	—2%
Drownings	6,700	4.2	—5%
Burns	6,600	4.2	—2%
Railroad	3,200	2.0	—5%
Firearms	2,500	1.6	0%
Poisons (except gas)	1,450	0.9	0%
Poison gases	1,300	0.8	—11%

of 60 to 66, and 15 had rates higher than 66. In general, the lowest rates were recorded in the Middle Atlantic states, with a regional rate of 47, and the New England states, 50. The average rate for the Mountain states was 85. In the rest of the nation rates varied only from 57 to 65.

### Type of Accident

Motor-vehicle deaths ranked first among accident types in 1953, with a total of 38,300 deaths, an increase of 1 per cent from 1952. Falls ranked second with 20,500 deaths, or 1 per cent fewer than occurred in 1952. These two types of accidents alone accounted for three-fifths of the accidental death total. No other accident type even approached them in importance. Drownings, the next most important type, numbered 6,700, only one-third the death total for falls.

The population death rates in 1953 were the same as or smaller than the 1952 rates for the 8 most important types of accidents. The

rate for poison gases dropped 11 per cent, and those for burns and railroad accidents went down 5 per cent. There was a 2 per cent decrease in the rates for falls and drownings, and a 1 per cent decrease in the motor-vehicle death rate.

Table II gives the accidental death total, the death rate and the change in rate for the principal types of accidents.

### Work Accidents

Deaths in work accidents totaled about 15,000 in 1953, the same as in 1952. Disabling injuries numbered about 2,000,000, also no change from 1952.

These deaths and injuries cost the nation approximately \$3,150,000,000. Of this amount \$1,000,000,000 represents the value of services lost to the nation as a result of disability, even though the worker himself was compensated for a part of the loss. Medical care for injured workers cost \$300,000,000 and overhead costs

of insurance totaled \$370,000,000. The remaining \$1,500,000,000 represents the estimated money value of damaged equipment and materials, production slowdowns and time lost by other workers not involved in the accidents.

The cost of work accidents to industry alone averaged \$50 per worker, but this average cost includes lower costs in many organizations where effective safety programs are being used. Where little has been done about accident prevention, the average cost of accidents is usually much higher.

Absence from the job by injured workers was responsible for a total loss of working time of about 45,000,000 man-days. This figure does not include time lost on the day of the injury or time required for further medical treatment after return to work. Additional losses, due to reduced productivity of others in the neighborhood of the accident, and delays while damaged equipment was being repaired brought the total working time lost during 1953 to about 250,000,000 man-days—equivalent to the working time of approximately 1,000,000 men for a full year.

### Death Rates

About 26 out of every 100,000 workers in the nation were killed in work accidents during the year. This average for all industry results from death rates for individual industries ranging from a low of 12 per 100,000 workers in the trade industry to a high of 107 deaths per 100,000 workers in mining, quarrying, and oil and gas wells.

### Off-Job Accidents

As usual, many more workers were killed off the job than on the job during 1953. Out of a total of 47,000 worker deaths during the year, about 32,000 or 68 per cent were the result of nonwork accidents—in the homes, on the streets and highways, or in other public places. The following table compares the death and injury totals for on-job and off-job acci-



dents to workers and the classification of the off-job injuries:

Place of Accident	Deaths	Injuries
At work .....	15,000	2,000,000
Away from work .....	32,000	2,500,000
Motor-vehicle .....	18,500	650,000
Public non- motor-vehicle .....	7,000	850,000
Home .....	6,500	1,000,000

The ratio of off-job injuries to total injuries is even higher in organizations with good on-job safety programs. Several industrial establishments with good safety records have reported that off-job accidents are responsible for 85 to 90 per cent of the disabilities due to accidental injuries.

#### Motor-Vehicle Accidents

Motor-vehicle accidents in 1953 were responsible for 38,300 deaths in the United States. These accidents also caused 1,350,000 non-fatal injuries, of which 110,000 found the victim with some permanent impairment.

Motor-vehicle travel in 1953 was even greater than in 1952, the rise even exceeding the increase in deaths. The death rate per 100,000,000 vehicle miles was 7.1—4 per cent less than the 1952 rate, and the lowest rate on record. In 1943 the rate was 11.5, so in ten years it dropped one-third.

Motor-vehicle accident costs were estimated at \$4,300,000,000 in 1953, of which \$1,600,000,000 was property damage.

In cities, towns and villages 11,100 persons were killed in motor-vehicle accidents, an increase of 1 per cent from 1952. In rural areas the death total was 27,200, also a 1 per cent increase from 1952.

Until the end of the war, the mileage death rate was approximately 11.5 per 100,000,000 miles of travel. Had the mileage death rate been the same in 1953, the death total would have been approximately 62,000 or 24,000 more than the actual number.

#### Home Accidents

Accidents on home premises in the United States were responsible for 29,000 deaths in 1953, or about 1,000 fewer than occurred

## SAFETY

(Chicago Tribune)

**W**ORKMEN erecting the Prudential Insurance skyscraper have got it a dozen stories into the air without a single fatal or permanently disabling accident. Not too many years ago it was frequently said that building a skyscraper cost a life a story, and this was not too far from the truth.

The safety inspectors on the Prudential job obviously aren't afraid of spoiling their luck by boasting when the structure is only about a third of the way up. The reason is that they know that the record isn't luck, but the result of careful planning for safety and the rigid enforcement of safety rules. Everyone on the job is required to wear a hard helmet, for example. Six men have been struck by falling objects that probably would have brained them if they had not been so protected.

The thought occurs that the great improvements in safety in recent decades have been largely in those fields where the discipline of employment makes people take care of themselves and others. Once hazardous steel mills now work millions of man hours to each fatal accident. Over the road truck drivers have their deservedly good reputation for safe driving because tough safety directors keep telling them that there is no such thing as an unavoidable accident.

Industry provides safe machinery and enforces safety rules because it pays to do so. The careless employee is an unprofitable employee. Even if he injures only himself, his compensation and the effect of his accident on insurance rates is costly.

In contrast, the ordinary motorist is not going to be fired when he takes a chance with his own or another's life. He can only be subjected to the mass discipline of strict traffic enforcement.

The housewife is under no discipline except her own common sense, sometimes blunted by the harassments of running a home. A safety inspector who found a machine tender tottering with fatigue at the end of a day would send him off shift before he hurt himself. There's no one to blow the whistle on the mother of small children, equally tired and distracted, as she prepares supper.

Safety is the product of education and discipline, and the education is worth a good loss without the discipline.

in 1952. Nonfatal injuries totaled 4,350,000. This means that nearly 3 per cent of the entire population of the country suffered disabling injuries in home accidents; and 110,000 of these were left with some permanent impairment. These accidents caused an economic loss of approximately \$750,000,000.

Most of the decrease was in deaths from burns, falls, poisonous gas and miscellaneous, unclassified accidents. A small increase occurred in fatal firearms accidents.

The leading cause of home deaths continues to be falls. Of these falls, well over four-fifths were of persons 65 years or more of age. However, accidental injuries from falls in the home are not exclusively a problem of old age. Older persons do not recover from their injuries as readily as younger persons, but various home accident surveys have demonstrated that falls are a leading cause of injury in the home among all age groups.

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Extensive ventilation and careful attention to housekeeping combine to keep down health and mechanical hazards at Exide. This is the battery assembly area.

## PLANT ENEMY NO. 1

**Constant vigilance by hygienist, safety engineer and physician safeguards people who work with lead**

**W**ORKING constantly, yet safely, with lead is no mean achievement. Nor is it a matter to be left to chance, in the minds of medical and safety personnel at the newly expanded, modern Crescentville Plant of The Electric Storage Battery Company in Philadelphia.

Lead is the major ingredient of the product—"Exide" storage batteries—and therefore Plant Enemy No. 1. At every step in the manufacture of batteries, from smelting on, company safety and medical experts have developed elaborate safeguards for the health of workers.

Many of these safeguards are far from dramatic; to the uninitiated some may even seem trivial.

In all "lead departments"—all rooms or areas, in other words, where lead is handled in any form—line shaft drives have been eliminated in favor of direct drives. Exposed, moving belts stir up lead dusts.

A new employee, before he dons his work clothing undergoes a pre-employment examination which must seem remarkable even to military veterans accustomed to "taking a physical." In addition to the usual tests he gives up a blood

sample, on which a complete blood count is made. A vision survey, urinalysis, chest X-ray, heart tracings and a ballistocardiographic examination follow. The last two studies are routine for all applicants over 35 years of age.

Annually, thereafter, on a voluntary basis, the employee undergoes the same series of tests, and every finding goes in a file, which is confidential between the individual employee and physician.

The clothing he wears, the safety rules he must observe, the kinds of safety equipment or systems—portable or fixed—which safe-

guard his working life, all depend on which department or area he is assigned to after the initial medical examination.

At the smelter, he finds that all processing of lead in any form is done under local exhaust. Men assigned to dross the lead pots wear goggles, respirators, wooden clogs and safety belts as they mount the gallery that rings the rim of one of the huge kettles containing molten lead. Giant overhead ventilating louvres brood over every area, sucking up dust—or fume-bearing air and carrying it to scrubbing or electrostatic precipitators for cleansing, before being exhausted to the outside general atmosphere.

The impurities or dross skimmed from the lead pots go down enclosed chutes, also guarded by overhead ventilating hoods, to an enclosed receptacle.

Everywhere in the plant, steel footguards are worn by all men who must handle pig lead or drums of oxide.

More than 90 per cent of all plant employees wear safety shoes on a voluntary basis and the company subsidizes a substantial part of the purchase price. Each employee is allowed three pairs per year on this basis. This shoe program, according to Charles R. Riley, Exide's safety director, has



Quantitative urine analysis for lead excretion are made routinely—lead excretion being directly related to lead absorption. A sample from every lead worker in the Crescentville plant is checked monthly.

cut toe injuries to one or two a year.

Employees wear company-furnished dust suits, exchanged for fresh suits each week, wherever lead is handled in small particle form.

Also, all employees in lead departments are allowed wash-up time and even extra bath time each week, to encourage personal cleanliness that helps reduce absorption of lead dusts.

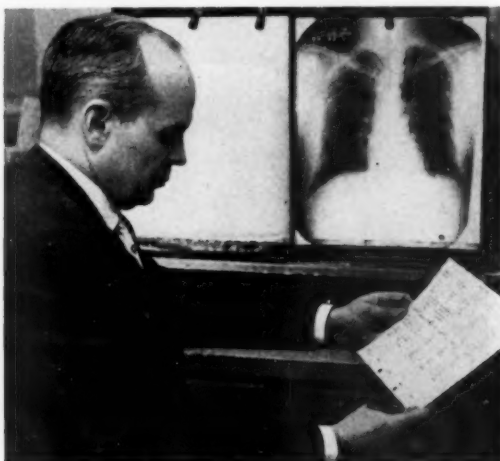
A strict rule forbids eating in any lead department, because food

—a sandwich, fruit or a bar of candy carried into the area—may prove to be the innocent-appearing Trojan horse that can give lead entry to the body.

Wherever lead in the atmosphere may be expected to exceed .15 milligrams per cubic meter of air, in an 8-hour exposure—the yardstick used at Exide—each employee is furnished with a compact, lightweight respirator, Bureau of Mines-approved for such service, and designed for comfort as well as efficient service.



Respirators are cleaned daily. After cleaning they are stored in bags until re-distributed.



Dr. F. B. Lanahan, medical director, examines X-rays and physical reports. These provide Exide's medical staff with a comprehensive view of the worker's physical condition.



Any lead dust that gets away from the elaborate ventilating system in this department where manual pasting is done is trapped and removed by frequent wetting down of floor.

To overcome any reluctance an employee might otherwise have to wear them, Exide uses a successful system of respirator care and maintenance. As each employee turns in his respirator at the end of the work day, it is scrubbed, sterilized, the replaceable filters changed. The respirator is then bagged to keep it clean until returned to the employee the next morning.

Excellent housekeeping is essential to the control of the lead hazard. Floors of all lead departments are either kept wet or periodically swept with wet sawdust or vacuumed, to trap and remove the larger lead particles sinking to the floor. But many particles of lead are so fine that they do not fall; and for this reason updraft ventilation is used in many working areas. An example is in assembly,

where battery plates and separators are grouped and straps burned to the plate lugs. Here, up-draft ventilation sucks off the fine lead particles, produced during the burning.

Gratings in lead department floors permit heavier particles to fall through into running water, thus preventing the resurgence into air of the lead that would otherwise fall onto solid walking surfaces.

Throughout the plant, the ventilation system is periodically checked to assure a high degree of efficiency. Air velocity is checked monthly as a routine maintenance measure. If it appears to be "out of line" an exhaustive inspection is made at once. Filters are cleaned, and ducts checked for accumulations of lead dusts, on a periodic schedule.

When a ventilating system is of such vital importance, health-wise, Exide safety and health personnel do not believe in assuming it is doing what it is designed to do. Air direction, as well as air velocity, is checked periodically at ventilating openings throughout the Crescentville plant by means of Ventilation smoke tubes, and air velometers designed for such measurements.

Even the smallest potential sources of lead trouble get the benefit of study, and action, at Exide. For instance, the saw used to cut plate lugs to the right length was examined in the light of the potential lead hazard, and the result was reversal of the saw so that lead particles would be thrown in the direction of the ventilating air stream rather than against it.

Cut-off pieces fall to a conveyor belt and are carried away without intermediate manual handling — thus reducing the dust inhalation potential.

Battery plates, after drying, are placed in tanks and electric current is passed through them for electrolytic formation. During this operation, the men in this area wear respirators, special clothing to protect them against



Employees handling lead or working in or near a lead department, wear light-weight respirators. This view shows a barrel-dumping arrangement at Exide.





Laboratory technicians prepare electrostatic sampler tubes for analysis. Tubes are covered with plastic caps after air samples have been drawn in to prevent sample loss or contamination on the way to the laboratory.



William Pallies, industrial hygiene and safety engineer, uses electrostatic sampler to obtain and check a sample of atmosphere in an assembly line employee's breathing zone.

acid splash, rubber boots and gloves, and either faceshields or goggles with vinylite lenses.

Men handling plates into and out of high temperature drying ovens wear asbestos suits, of two-piece construction and incorporating helmet, gloves and boots, and with front-type demand oxygen masks designed for short-term use in toxic or potentially toxic atmospheres.

Where plates are cleaned, local exhaust carries the lead dust off into a bag collector.

In certain steps of plate formation, ammonia is used for refrigeration. An ammonia leak would obviously be a serious emergency hazard. Accordingly, ammonia masks and oxygen-breathing apparatus are kept near-by—not adjacent to—these potential trouble spots. The ammonia masks are suitable, Mr. Riley explains, for protection where ammonia constitutes up to 3 per cent of the atmosphere. In case of a serious

ammonia "break," the oxygen apparatus provides protection, because this equipment supplies the wearer with oxygen completely independent of the surrounding atmosphere. It generates its own supply of oxygen, by reaction of chemicals in a canister with the wearer's exhaled breath.

Men wear faceshields in the pasting department, where oxide is mixed with water and sulphuric acid to form paste. Machines push the paste into lead alloy grids to form plates. In addition to the overhead ventilation system and provision of respirators for workers there, Exide keeps the floors wet and scrubbed, and floor gratings permit dropped lead to fall into water. At night, janitors not only hose the floors but also clean the overhead ventilating hoods and the machinery to keep dust deposits down.

Here again there is evidence of the safety men's constant attention to even minute potential hazards.

When an operator opens a paste feed hopper, to clean it for the next day, an electrical contact is broken and the spindle in the hopper cannot turn, eliminating the possibility of personnel being caught in revolving equipment.

Similarly, all nip points of power transmission equipment, throughout the plant, are enclosed by sturdy sheet metal guards and the point of operation on all equipment is guarded in accordance with the demands of each particular operation.

William Pallies, of the Exide Industrial Hygiene Laboratory, points out that control of the lead hazard is not the only problem. Wherever incomplete combustion is suspected in an operation a carbon monoxide tester is used to measure CO concentration. This small, light, easily carried instrument, capable of detecting minute concentrations of carbon monoxide in the atmosphere, makes it

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Pens are inspected under special bench lights — the only supplementary units in the plant. One end of the convertible equipment platform through which flexible atmospheric control is provided, can be seen in the trusses above. Controlled ventilation may be obtained with or without air conditioning. Platforms are an integral part of the structural frame. Fans, filters and conditioning chambers are assembled on platforms and raised into position.

## Controlled Conditions ... Room to Grow

**T**O MAINTAIN the best possible working conditions all the time was the ambition of W. A. Sheaffer II, president of the W. A. Sheaffer Pen Company of Canada, Limited, when plans were being made for the company's new plant at Goderich, Ontario. And last March, eight months after the ground-breaking, the plant began operation.

Goderich was selected as the site for the plant after a survey of the facilities offered by 33 communities. The Sheaffer plant is now in full operation with 150 employees and sufficient space and basic service equipment already installed to support more than twice that number. Engineers of The Austin Company, Limited, selected the site and designed and built the structure. It is the first industrial plant outside the United States to use the convertible design developed by Austin to provide controlled conditions on a progressive basis.

The plant, which has 47,000

Many modern features are incorporated in this small plant. Others can be added when desired



Floors of acid-resisting brick have been installed throughout the plating department which shares one corner of the plant with the buffing and polishing department. The layout simplifies plant-wide control of ventilation. Vapors and dusts produced by these operations are removed at the source.

square feet of floor space, is designed with a flat roof and a single narrow band of projected architectural sash. Uniform glare-free lighting is provided by a plant-wide installation of Trol-E-Ducts on 10-foot centers from which power is fed to three-tube 75-watt industrial type fluorescent fixtures with slotted porcelain reflectors. These are spaced intermittently to maintain an average lighting intensity of 50-foot-candles at the working plane.

Comfortable atmospheric conditions are assured, regardless of the season, by a completely mechanical system of ventilation which keeps the air in circulation and distributes it evenly, and a well-insulated enclosure which reduces to a minimum the heat gain in summer and the heat loss in winter. The side walls above the buff-colored face brick sill wall and vision strip have been enclosed with insulated wall panels ( $7/8$  inch of rigid insulation between  $1/8$  inch flat sheets of asbestos cement board) and faced with Trafford tile.

There are only eight interior columns in the entire factory where 60-foot trusses have been used in combination with 40-foot trusses in an area 180 x 200 feet. Clear of permanent partitions except for those required to enclose the employees' service facilities, the boiler room, the Skrip department and the finished merchandise vault, all of which are located alongside the exterior walls, Sheaffer production engineers adopted a layout in which all production flows clockwise around the general stores area which is located beneath the ventilating equipment platform.

An employees' cafeteria, engineering department and superintendent's office are located on a mezzanine directly above the employees' washrooms, finished products storage vault and shipping department, insuring maximum head room and ventilation to all production areas.

A single depressed truck dock  
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Ventilation serves a double purpose in the buffing department. From the dusts carried away through the row of ducts serving the dust control system, tiny particles of gold are trapped by filters and reclaimed. This department is separated from the plating room by a movable steel partition.



Vinyl plastic tile flooring in the first aid department is easy to keep clean. Heating is provided by fin-tube radiation around base of perimeter walls.



## TODAY'S ACCIDENT AND TOMORROW

(Fiction)

By BILL ANDREWS

**An "attractive nuisance" and a near tragedy spur  
some long range plans—with a few question marks**

*August 4, 1954*

THE SOUTHWEST WIND blew in hot from the prairie. Heat waves shimmered up from the blacktop driveway from the gate to the main office building. Salt tablets were rolling out of dispensers throughout the plant.

I shut my eyes against a flurry of dust blown up by the wind and felt the grit of dust between my teeth.

I thought of the lake ten miles away, blue and cool, clean and quiet.

But the thought died in the heat

and dust, the clash of shovels against gravel, and the low, steady flow of profanity coming from the lips of Larson, our company president, who stood beside me.

One noise I listened for, hungrily, but could not hear. I wanted to hear the sound of a cry, a groan, a scream. But the shovels' clash and Lars' dull cursing were the only sounds.

The gravel pile was not large—just enough to provide the hungry maw of the cement mixer with food to chew into concrete for a foundation for a new building.

But it was large enough, and it had gotten undercut as the men stoked the cement mixer during the morning shift.

Somehow, two boys had been attracted to the pile, coming through or over the temporary fence surrounding the project. One was standing in the undercut place, and the other scaled the pile. The laborers had seen them, but they were sitting in the shade eating lunch, and kids playing on a pile of gravel didn't seem any cause for alarm.

But the pile slipped, and the boy on the bottom was buried.

I got the call over the loudspeaker in the lunchroom, and Lars came along. When we got there, a dozen men were trying to find the buried boy. We chased half the men off the pile, and put Makey in charge of the rest with instructions to take it easy for fear of injuring the boy. Then we waited.

It couldn't have been long that we watched and prayed. But it was long enough for me to think hard and for Larson to curse much.

I was thinking something like this: "We put a plant next door to a residential neighborhood. We put up signs telling children to stay out. We fill the plant with a lot of attractive temptations for exploration. We put up fences and have watchmen patrol.

Yet there is a boy under the pile of gravel, gasping for breath, perhaps dying as I watch helpless.

What should we have done to prevent this? Boyproof fence is not cheap, and this building was going to be right on the property line, serving as its own fence. Should we have put up expensive fence for the duration of the job, just as soon as we tore down the old fence to make way for the foundation? Maybe, but we did fence the job—even if not quite as adequately as we might have.

Should I have demanded the posting of a guard for the 30 minute lunch period? Maybe, but I doubt if I would have gotten one. Tomorrow I might get one—but



I doubt if I could have today before the accident.

Could this have been prevented in the distant past, through consistent education work in the schools of the city? Maybe. The railroad men seem to feel anti-trespassing propaganda is worth effort and money. But, again, would I have gotten a hearing from the school people before the accident happened to show the need?

Always, I come back to the doubt—would anyone have listened? And I suppose I doubt that they would have listened, because I myself did not see in advance the need—did not see clearly and with the strength of conviction.

If I did not see, and if I could not have made others see, then is it true that safety men must literally spend their lives trying to prevent yesterday's accidents with steps taken tomorrow?

My thinking was interrupted by the sound I had been wanting to hear—a faint, terror-stricken, childish wail. On the gravel pile men threw down their shovels, and the gravel flew as they pawed with their hands. Then, among their scratches, hairy hands in the gravel appeared a child's hand, clenched into a fist, pinned motionless in the pile.

Moments later the ambulance interne was kneeling beside the dusty body of the boy, ignoring his cries, searching quickly for broken bones. The interne stood up at last and said, "O. K. Shock is probably all. We'll take him in for observation, but it doesn't look like anything serious." Lars and I walked back to the office as the siren wailed through the plant gate.

Lars said, at last, "What went wrong? What should we have done?"

I thought back over my own musings. Suddenly, none of them made too much sense. "I don't know," I said after a pause. He lifted his voice in anger, "You don't know. And just why the —?" he stopped suddenly.

He began again, quietly, "You analyze accidents by worker failure, mechanical failure, supervision failure, management failure. Maybe there was worker failure—but when I swang a shovel, I don't know that I'd have interrupted my lunch to chase a bunch of kids away from a pile of gravel. There was no mechanical failure. Maybe supervision is to blame in a small way—but, when I was a foreman, would I have chased those kids? So it looks like management failure. But where did we fail?"

I said the obvious things—said them without conviction—things like the fence, the absence of guards, the lack of educational work.

He thought them over in his slow, plodding way. "We can't build wire fence high enough around every temporary job. We can't have a watchman everywhere. We might do the educational job, yes, but what are our aims—not just avoiding gravel piles. Not even just to stop trespassing. It's actually a lot more likely that one of those kids would be killed by one of our trucks away from the property than that another would be buried in a gravel pile."

Lars was right, of course, righter than I had been. He was stating the ancient truth, that we must in safety work look for the prevention of the future accidents—stimulated in our thinking by yesterday's accident, but not driven by it into a tail-chasing operation.

It humbled me a little to have a non-expert tell me something about my business, but then I took some consolation in realizing that that is a president's function—to be wiser than his specialists, at least occasionally.

I agreed to come back in a few days with proposals, and then I took the problem to the department to thrash out with Harry Dexter, my assistant.

"Boss," he said, "you once told me, 'You can't be stampeded by every man that bleeds on your shirt.'"



I told him to go on.

"The fence is a weakness, granted," he said. "But if you had had the money to get more fence,

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# FOR DISTINGUISHED SERVICE



National Safety Council Award for Distinguished Service

**N**ATIONAL Safety Council Industrial Safety Awards reported each month represent a cross section of industry. Plants gaining recognition for outstanding safety achievement run the gamut from industrial giants, employing thousands of workers, to small shops where years of accumulated man hours were necessary to total the required number of safe hours.

Some of the firms are perennial safety award winners, others join the roll for the first time.

Recipients of NSC awards listed this month were scattered from Hawaii to the Panama Canal Zone, and from Ontario, Canada to Dallas, Texas.

## AWARDS OF HONOR

Bethlehem Steel Co., Fabricated Steel Construction, Pottsdam Works.

—Fabricated Steel Construction, Rankin Works.

—Johnstown Plant.

—Sparrows Point Plant.

Department of Public Works, Bureau of Engineering, Chicago.

Campbell Red Lakes Mines, Ltd., Balmertown, Ontario, Canada.

Chrysler Corp., Detroit Tank Plant.

Douglas Aircraft Co., Inc., Santa Monica (Calif.) Plant.

E. I. du Pont de Nemours & Co., Belle Works.

—Benger Laboratory.

—May Plant.

—Niagara Falls Plant.

—Office Buildings, Wilmington, Del.

—Old Hickory Cellophane Plant.

—Parlin Finishes Plant.

—Rubber Laboratory.

—Seaford Construction.

—Seaford Plant.

—Spruance Cellophane Plant.

—Technical Laboratory.

—Toledo Finishes Plant.

—Washington Works.

—Waynesboro Plant.

—Yerkes Film Plant.

Ford Motor Co., Chicago Assembly.

—Edgewater (N. J.) Assembly.

—Dallas Assembly.

—Green Island Plant, Troy, N. Y.

—Metuchen (N. J.) Plant.

—Norfolk (Va.) Assembly.

—St. Louis Plant, Robertson, Mo.

—Ypsilanti (Mich.) Plant.

Gardner Board & Carton Co., Lockland, Ohio.

General Plywood Corp., Louisville, Ky.

Kauai Consolidated Terminals, Ltd., Lihue, Kauai, T. H.

Lehigh Portland Cement Co., Union Bridge, Md.

Medusa Portland Cement Co.,

Grey Plant, York, Pa.

Monongahela Power Co., Fairmont, W. Va. (Entire company).

National Automotive Fibres, Inc. Trenton (N. J.) Division.

National Malleable & Steel Castings Co., Melrose Park, Ill.

New Orleans (La.) Public Service, Inc. (Entire company).

Northrop Aircraft, Inc., Hawthorne, Calif. (Entire company).

Phelps Dodge Corp., New Cornelia Branch, Ajo, Ariz.

Radio Corporation of America, Harrison Plant.

J. D. Roszell Co., Peoria, Ill.

Tennessee Valley Authority, Colbert Steam Plant Branch.

—Fort Patrick Henry Dam.

—Kingston Steam Plant.

—Shawnee Steam Plant Branch.

Texas State Highway Department, Austin, Texas (Entire company).

United States Plywood Corp.,

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## RECOGNITION FOR INDUSTRIAL SAFETY RECORDS

Three types of awards are given for outstanding performance in industrial accident prevention:

1. **THE AWARD OF HONOR**, which goes to industrial establishments whose experience meets rigorous statistical standards, even though it may not be injury-free. It also goes to those which complete 3,000,000 manhours without a disabling injury.

2. **THE AWARD OF MERIT** has similar, but less exacting requirements. The minimum number of injury-free manhours needed to qualify is 1,000,000.

3. **THE CERTIFICATE OF COMMENDATION** is given only for no-injury records covering a period of one or more entire calendar years and involving exposure of 200,000 to 1,000,000 manhours.

Details of eligibility requirements may be obtained by writing to Statistical Division, National Safety Council.

## Traveling Truck Teaches Fire Prevention

In a continuing effort to instruct policyholders and the general public in fire prevention, the Division of Fire Prevention and Safety of the Lumbermens Mutual Insurance Company, Mansfield, Ohio, has recently purchased and equipped this fire prevention truck. According to



Charles E. Nail, president and general manager of the company, this truck will visit the plants and lumber yards of policyholders, as well as other interested groups.

The truck is staffed by a crew of trained men who will demonstrate fire detection devices, automatic alarms and all types of fire extinguishing equipment. The story of fire loss prevention and what it means to the individual and the nation, will be given to audiences in the communities visited.

The project has received the enthusiastic endorsement of fire chiefs and safety directors of the many cities visited so far.

William M. Marlowe, assistant secretary of Lumbermens, has been placed in charge of this activity. Interested groups may contact Marlowe for particulars on how a visit of this truck may be arranged for their area.

One thing you can learn by watching the clock is that it passes the time by keeping its hands busy.

SEE US IN CHICAGO OCTOBER 18-22

## Du Pont Head to Address Congress Banquet

Crawford H. Greenewalt, president, E. I. du Pont de Nemours & Co., will be the speaker at the Banquet of the 42nd National Safety Congress. A prominent figure in American industry, Mr. Greenewalt has played a prominent part in many of chemistry's contributions to better living. And the du Pont Company has made history in safety as well as in scientific and industrial development.

\* \* \*

On the program of the Annual Meeting, Monday morning, October 18, will be Dr. Henry T. Heald, chancellor of New York University, and former president of Illinois Institute of Technology, Chicago. Dr. Heald was the Council's Vice-President for Schools and Colleges, 1943-49.

\* \* \*

Materials handling will occupy three of the subject sessions sponsored by the American Society of Safety Engineers. Papers and symposiums will include manual methods and the wide variety of mechanical equipment that has been developed for safer and more efficient handling.

"Effective Communications for Improved Safety" will also fill three sessions. Media discussed will include company publications, visual aids, rule books, safety meetings, training techniques, conference leadership, and management messages.

A session on Better Secing—for production and safety—will discuss many aspects of good vision and its ally, lighting.

Other ASSE Subject sessions are: A New Look at Nuclear Developments, Are You Prepared for Emergencies, Are Your Efforts Effective? What Community Safety Holds for the Safety Engineer, What Are the Facts About Industrial Noise? Your Accident Data—Cases and Dollars. Other phases of topics listed for these subject sessions will be discussed in the meetings of the various sections.

\* \* \*

"Let's Get Personal" is the title of four lectures which Edward McFaul will deliver at the Early Morning Classes on Tuesday, Wednesday, Thursday and Friday mornings.

\* \* \*

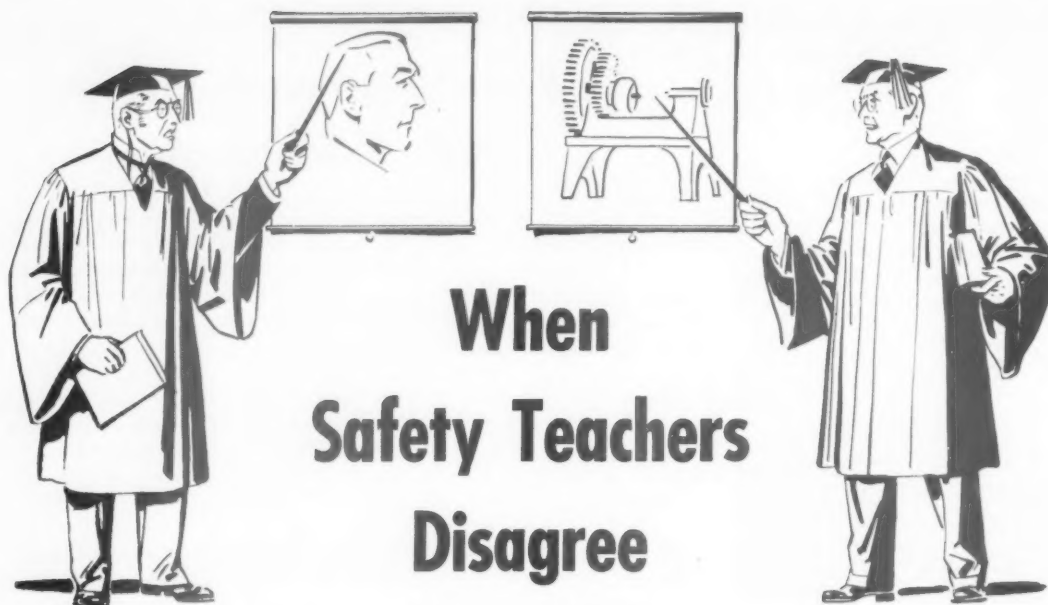
Every square foot of exhibit space in the Exhibit Halls on the lower lobby of the Conrad Hilton was reserved several weeks ago and this year's Safety Exposition will again present an extensive and colorful display of equipment for accident prevention, fire protection, first aid and related activities. The Council, too, will have an elaborate display of its services and publications.

\* \* \*

There is still time to make hotel reservations for Congress week although it may not be possible to accommodate the delegate in the hotel of his choice. Requests for reservations should be made without delay to: Congress Housing Bureau, National Safety Council, 425 North Michigan Avenue, Chicago 11.

\* \* \*

Type is now being set for the Congress program and copies of the preliminary edition will be mailed to members during August. This will permit prospective delegates to study the schedule of meetings and plan to make effective use of their time during the Congress.



# When Safety Teachers Disagree

By NORMAN MOZLEY

**Human element vs. mechanical, persuasion vs. coercion,  
positive vs. negative . . . the arguments go merrily on**

**WE** HAVE considered the conflict between those safety people who would concentrate too strongly upon hazards in the physical environment and those who would confine their attention to the worker's behavior. Both groups have much to contribute to the safety movement. Their contribution is greatest when they do not go to the extreme of trying to discount each other's efforts.

There is similar conflict within the ranks of those who concentrate upon influencing the behavior of the worker. There is nothing wrong with such concentration of attention, if we maintain a suitable perspective and recognize the importance of work performed by people who design plants, machines, guards, processes, and other non-human things influencing the safety of industrial

operation. This is an age of specialization in which it is quite proper for a man to devote his attention and his career to the human causes of accidents.

For the moment, let us assume that the two groups of safety psychologists have a proper view of physical hazards—they do not deny their importance, but are merely leaving them to be attended to by other people. Actually, this assumption would not always be true. Let us also acknowledge that not all of the people in the two groups which we shall discuss are trained professional psychologists. We are calling them psychologists in a broad interpretation of the word for the reason that they are concerned with the mind—with human motivation and behavior—as safety supervisors must do.

This basic conflict among the people who concentrate on human causes of accidents was pinpointed for my attention by a request for statistics. The purpose—to prove

that safety programs based on appeals to reason, pride, self-respect, and *esprit de corps* are more effective than programs based on enforcement of safety rules through provision for disciplinary action. In other words, evidence was desired to prove that positive incentive is more effective than fear of punishment. The person requesting this information opined that the only hope for industrial safety is to motivate workers to want to work safely.

I had to answer that such comparative statistics were unavailable because no one had tried—nor was it realistic to think that anyone would seriously try—to reduce accidents with one hand tied behind his back. A safety program is not that objective an experiment.

A safety man does not say, "This year I will limit myself to making rules and punishing the workers who break them. Next year, I will not make rules at all;

—To page 94

NORMAN MOZLEY is Assistant to the General Secretary, National Safety Council. This is the third of a series in the Philosophy of Safety.

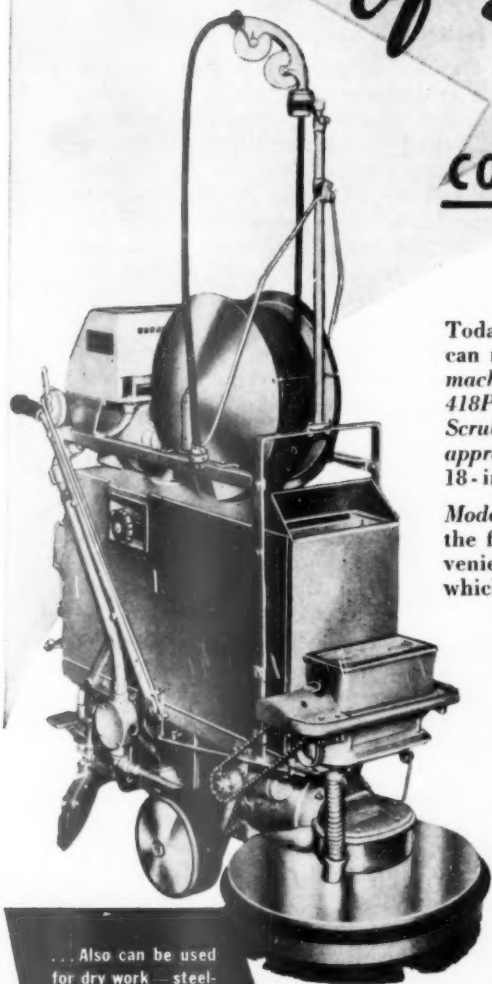


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*Model 418P* applies the cleanser, scrubs, and picks up (damp-dries the floor) — *all in one operation!* Maintenance men like the convenience of working with this single unit... the thoroughness with which it cleans... and the features that make the machine simple to operate. It's *self-propelled*, and has a *positive clutch*. There are no switches to set for *fast* or *slow* — slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. (Powder dispenser is optional.) Compactly built, the *418P* also serves advantageously in larger buildings for the care of floors in narrow aisles and congested areas.

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CITIES

# THE SAFETY VALVE



## Disturbers of the Peace

NOISE—the objectionable kind—means different things to different people. Some might think the sound of linotypes and printing presses distracting. But having grown up in a print shop, the sounds of the shop and the smell of printers' ink and type wash are mental stimulants to me. When I was closer to the production end of publication, I liked to grind out copy in a corner of the composing room.

When the Fish family moved out to the suburbs more than twenty years ago one of the things we liked was the absence of traffic noises. The plane that used to fly over around bed time and the distinctive tone of the whistles on the Milwaukee Road's locomotives five miles away merely emphasized the stillness of the night.

In those days O'Hare airport was a cornfield and the Glenview Naval air base was still in the future. Now the sky over the northwest suburban area is filled with jets that threaten to rip the shingles off the roof.

I've loved the sound of steam trains, ever since the days when the distant whistle of the *Wolverine* roaring through the night used to whisk me away in fancy to New York, Chicago and other far away places.

The old 4-6-2's hauling the North Western's suburban trains have a pleasant rhythmic sound that never disturbs my sleep. But these faithful veterans of the rails are being replaced by switching diesels which produce large volumes of hideous noise.

The most recent disturber of the peace is the power lawnmower, of which there are now several in our block. And some of the more ambitious householders go into action early on Sundays and holidays.

All this, plus traffic and parking problems, have changed suburban life.

That's progress—the kind that makes the tranquility of a one-barber-shop community look good.

But you can't count on getting away from it all. The remote spot you've picked for a hideout may be the government's idea of a good place for a defense plant.

## Pushbutton Factories

AUTOMATION is a word that hasn't yet appeared in dictionaries but we're going to hear a lot of it in the next few years. Here is a definition by Charles F. Hautau in *Factory Management and Maintenance*:

*Completely automatic manufacture, assembly and preparation of products for shipment.*

Almost all automation now in existence falls somewhat short of this definition, says Mr. Hautau. But he thinks industry will grow up to that definition.

Automation should bring out some interesting developments in industrial accident prevention.

## In This Issue . . .

MUCH HAS BEEN WRITTEN about the value of an effective safety program in building up good public relations. That suggests newspaper stories about the plant's safety record, community rallies, contests for the youngsters, and the like. All are good. But Charles R. Brown brings out some negative values that have often been overlooked. Public relations are also helped immensely by the bad news that's not printed because the accident was prevented. (Page 18)

\* \* \*

Accident prevention is carrying a lot of excess baggage in the form of alibis, platitudes and fallacies that hamper effective work. These contribute to the total of accident costs which sometimes exceed the profits of the business. (Page 20)

\* \* \*

This article prompted the personal observations on noise. Dr. MacKenzie presents some important scientific data on the subject along with some delightful whimsy. (Page 22)

\* \* \*

Looking back over past issues of the News, all the pictures of Ned Dearborn have shown him making speeches or presenting trophies. Dan Adair's camera caught the Council's president in a different role. (Page 24)

\* \* \*

The accident record for the U. S. A. in 1953 showed just enough improvement to be encouraging. This article is a summary of the Council's widely used booklet, *Accident Facts*. (Page 26)

\* \* \*

Without many of the common poisons, modern life would be seriously restricted. One of the most useful of these is lead and learning to work with it safely has been one of the accomplishments of occupational hygiene. (Page 30)

*Carman Fish*

# Your Workers will be proud to wear Safety Shoes with **WINGUARD** Steel Toes



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STYLES  
A STEEL TOE  
FOR EVERY  
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# First-Aid Progress Shown in Film

**M**ANY a layman today can do a better job of treating minor injuries than the physician of a century ago. The reason: He has the supplies and know-how not available to even the medical profession of that period.

Thanks to the American Red Cross and other agencies, the simpler techniques of first aid have become widely known. And every drug store carries a stock of sterile dressings for minor mishaps at home, on the road and on the job.

The techniques of sterile dressings, inspired by Louis Pasteur's discovery of micro-organisms, were developed by Dr. Joseph Lister and based on the concept that it was germs entering the wound from the outside that caused infection and high mortality.

A recent contribution to the subject by Johnson & Johnson is the movie, *Bandages and Bullets*, a few scenes from which are shown here. While made primarily for TV audiences, the color version is available for non-theatrical audiences, such as schools, civic clubs, service organizations, etc.



1. Healing priest of ancient Egypt applies balsam, resin, and skin from a she-goat to heal open knee wound; regrets he has not learned the secret of preventing skin rot when flesh is torn. This scene from the J & J film, "Bandages and Bullets," dramatizes an Army surgeon's narration of surgical history to a war correspondent who is doing a story on first aid.



2. In his Glasgow Hospital, Dr. Joseph Lister tells nurses Louis Pasteur's discoveries led to his own theory that flesh does not rot from the inside out but that infection is caused by outside elements entering wounds. Two years of research were spent to make the settings authentic to minute details.



3. Cinema version of Robert Wood Johnson (right) discussing with contemporary pharmacists his belief that sterile dressings could be manufactured in quantities to serve medical needs throughout the world.



4. War correspondent returns from battlefield to find Girl Scout-trained daughter treating brother's wound "professionally." When children go to bed he studies Girl Scout Manual. Finally has material to complete his story on first aid on the battle and home fronts.



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# Wire from WASHINGTON

By HARRY N. ROSENFELD

Washington Counsel, National Safety Council



**I**N A CONGRESS driving hard in order to meet its statutory adjournment date, Committee action, and approvals by one or both Houses of the Congress are beginning to study the list of safety bills under consideration.

## **Congratulations to National Safety Council**

Senator Alexander Wiley, of Wisconsin, submitted a statement on the floor of the Senate on "The Importance of Safety Activities," in the course of which he congratulated the National Safety Council for its work. "Accident prevention," said the Senator, "is a job which must be undertaken in every home, in every office, in every factory, on every highway of America."

## **Marine Safety**

The Senate passed, and sent to the House, S. 2453 (Tobey) to implement the International Convention for the Safety of Life at Sea relating to radio operators on board ship. It would extend this Convention to ocean-going vessels sailing from American ports, which at present are exempt from these requirements solely because they do not engage in international voyages or because they belong to a foreign country which is not a party to the Safety Convention.

The Senate approved S. 1763 (Tobey) introduced at the request of the Secretary of the Treasury. This bill would require that all steam vessels navigating rivers only shall be provided with an approved life preserver for every person allowed to be carried on such vessel, including crew; with official approval, floats may be substituted.

The Senate Committee on Interstate and Foreign Commerce favorably reported on S. 3464 (Potter), to amend the Communications Act of 1934 in order to provide for effectuating the Agreement for the Promotion of Safety on the Great Lakes by Means of Radio.

## **Aviation**

Companion bills were introduced in the Senate and the House requiring "in the interest of flight safety" that no pilot or co-pilot shall be scheduled in interstate air transportation for consecutive flight-deck duty aloft for more than 8 hours. The bills are: S. 3687 (Bricker, McCarran, Johnson, Welker, Goldwater), and H.R. 9770 (Hinshaw).

A private management firm's report suggesting reorganization of the organizational structure of the Civil Aeronautics Administration seems likely not to be acted upon immediately. The Senate Appropriations Committee directed that in view of the adjustments already made and of the pending legislation before Congress involving the basic method of handling aviation safety matters, "no further changes of a substantial nature should be attempted at this time, or during fiscal year 1955, which would involve transfers of funds without clearance of the Senate and House Committees on Appropriations."

The bill to rewrite the Civil Aeronautics Act of 1938, S. 2647 (McCarran) is scheduled for further hearings in the Senate.

## **Home Safety**

After hearings on two bills requiring inside latches on refrigerators to enable their being opened

from within, the Senate approved a new proposal reported out of Committee, S. Res. 272 (Purtell, Mansfield, Sparkman).

This resolution, after a series of "Whereas's" setting forth the problem, states that the testimony before the committee "failed to establish the existence of a device which would provide a proper seal" and at the same time allow escape from within. It goes on to say that enactment of S. 2876 and S. 2891 would therefore result in banning refrigerators from interstate commerce.

In view of the assurances to the Committee from the refrigerator trade that intensified efforts will be made to discover such a device, the Committee decided it would be better to await such an invention before enacting legislation. The Senate Committee on Interstate and Foreign Commerce, which dealt with these bills, gave clear warning to the industry, however, that if industry failed to produce the necessary safety devices, it might suggest appropriations of Federal funds to government agencies for the necessary research and development. In the meantime, the resolution would have the Senate commend those states and municipalities that have passed local legislation in this matter, and also the civic groups cooperating in the enforcement of such laws and ordinances. The resolution also urges the other states, which have not enacted such legislation, to consider the advisability of doing so at the earliest opportunity.

Refrigerator latch bills before the House, H.R. 7920 (Roberts) and H.R. 8170 (Patterson), were

—To page 75

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# GREEN CROSS NEWS



## Safety in Many Lands

ARNOLD E. ARCHIBALD, president of the San Francisco Federal Savings and Loan Association, and for the past few years president of the San Francisco Chapter, NSC., returned recently from a two months' trip to England, Scotland, Ireland, Italy, Switzerland and South Africa. He was one of the four delegates from the United States attending the Building Societies Conference in London last month.

In each of the countries visited, he found time to check on the accident prevention effort. In discussing this phase of his tour, Mr. Archibald commented:

"The safety program is world wide. In Johannesburg, South Africa, I spoke to a group of industrialists where their major consideration was plant safety in various types of manufacturing organizations. Their problems are quite similar to our own here in America and the discussion that followed was most interesting and informative.

"In London, I spent an afternoon inspecting equipment installed on six floors in the building of the Royal Society For the Prevention of Accidents, which might be called the National Safety Council of England. Their program is being conducted primarily with a view toward educating drivers—especially new ones.

"The electrical devices used in the instruction of the teen-agers are unusual and precise. Sections of highways are shown on panel boards to indicate the movement

of automobiles from all directions. The entire scene is within the full view of the student and by his or her use of the various controls, the proper or improper traffic rules are reflected on the board electrically."

## Facts Invited

The Field Organization of the National Safety Council recently compiled a list of statements from local council presidents and top city officials to provide answers to questions often asked by potential contributors. The three queries most commonly asked are (1) What other communities have councils and what have they accomplished? (2) Why is it necessary to have a safety council? (3) What value will it be to my business?

Chapter and chartered council managers were asked to obtain and send in such statements. The Field Organization plans to get them out in mimeograph form for each manager.

## Santa Barbara Council

Final organizational steps in setting up a local safety council in Santa Barbara, Calif., were taken June 10, at a meeting held in the county commissioner's office in the Court House. By-laws were enacted and officers chosen for the Council's first year. The new president is Lieutenant P. W. Rairden, in charge of the Santa Barbara Naval Reserve Training Center, a dynamic civic leader, long interested in safety. L. R. Steward, a member of the County Road Commission, presided at the meet-

ing which was attended by 80 interested citizens and leaders of important groups. City and county officials were present, including Lieutenant W. R. McConnell of the Traffic Division of the Police Department, an active worker in forming the Council. Funds will be sought to provide a full time manager and staff and the new organization plans to apply for NSC chapter status within the next six months.

## Mason City Reorganization

A 15-man board of directors was approved recently as the nucleus of the reactivated Cerro Gordo County Safety Council at Mason City, Iowa. The new group consists of representatives of leading organizations throughout city and county. The council hopes to set up active programs that will cover safety in traffic, in industry, in and about homes and on the farms.

The Business and Professional Women's Club spearheaded the movement to revitalize the council and representatives of 28 groups have unanimously endorsed the reactivation program. John C. Hrubetz was elected chairman of the new organization.

## Central Washington Conference

The South Central Safety Conference held at Yakima, Wash., June 1, was highlighted by panel discussions on traffic and industrial safety. At the latter session the panel recommended that more emphasis be placed on the im-

—To page 102

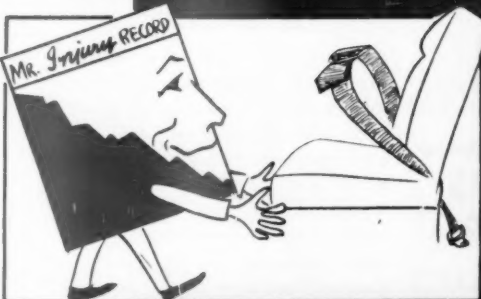


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When you weigh the cost of just one Safe-Hi Auto Seat Belt  
against the cost of hospital bills, you'll find that Safe-Hi Auto  
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They're neat in appearance, easy to install, easy to use  
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# SMALL BUSINESSES and ASSOCIATIONS

By A. M. BALTZER and ROBERT D. CURRIE

*Small Business Program Staff  
National Safety Council*

## Quotes from a Small Business

**G**ORDON ST. CLAIR of our Small Business and Association Committee is president of the Medical Supply Company, a small firm of 50 employees located in Rockford, Ill. In his talk before the recent President's Conference, Mr. St. Clair said:

"I do not think that our problem differs greatly from the problems of any other manufacturing plant, large or small, nor do I think that we solve them in any unusual way.

"*What we did.* We have no safety program. We merely follow a course of doing what we feel is right to do because it is good business. We did all the things to make working conditions pleasant. In this atmosphere and congenial working conditions we attract good personnel. All through our operations we have placed great emphasis on training.

"*What did it Cost?* Frankly, cost had never occurred to us. It would probably cost us more to find out what we spent than we spend on what we are doing. My personal opinion is that it would cost us much more if we did not consider safety.

"*Why we think it is worthwhile.* To the best of my knowledge, we have the lowest rate of turnover in the city of Rockford. As safety is, in part, a by-product of good management, safety has its own by-product which is careful workmanship resulting in quality products.

"Our products liability insur-

ance rate is 20 per cent lower than manual rate. Our compensation insurance rate is 8.1 per cent lower than the manual rate.

"Safety can't be accomplished by legislation, posters, slogans, rule books or department bureaucracy. It can only be done by people—people like you and me."

In concluding, Mr. St. Clair quoted Justin Wilson, with the definition; "Safety is an intangible something . . . you can't see it until it ain't."

## They're So Right!

Of particular interest to associations in California is the fol-

## INITIAL STEPS For Association Action

1. GET PRELIMINARY ACCIDENT LOSS DATA TO SELL NEED.
2. ENLIST SUPPORT OF KEY EXECUTIVES.
3. APPOINT A COMMITTEE TO PLAN A PROGRAM.
4. INTRODUCE PROGRAM; THEN EXPAND IT.

**N.S.C.**  
*Stands Ready To Help*

Associations with successful safety programs have found these initial steps are necessary. These associations are providing excellent accident prevention service to their industry. If your association is providing this service, take advantage of it; if not, urge them to do so!

lowing recommendation submitted to the 1953 California Industrial Safety Conference:

"Trade associations should furnish a group safety plan, especially for small employers, to render the following services:

- Statistical standardized safety rules
- Educational consulting
- Inspection and investigation
- Liaison with other agencies
- Promote safety contests

The Division of Industrial Safety in California is convinced that "trade wide safety plans sponsored by trade associations are important in reducing occupational injuries, especially in smaller establishments. It seems apparent that a small employer in any particular industry would be much more impressed with facts and figures of that particular industry than in industry as a whole, and would be more ready to contact the trade association covering their own field."

## Accent on Small Business in the South

Within the past few months Associated Industries of Georgia started an all-out safety program, primarily designed to help the high proportion of their members which are "small business." The Board of Directors appointed a safety committee representing various industries and all size companies. The Committee's first move was to launch a publicity program to stimulate interest but more specific activities are underway.

This spring, J. H. Jones, chairman of the Safety Committee and safety director for the Penn-Dixie-Cement Corp., Clinchfield, Ga., sent a questionnaire on safety activities to all A.I.G. members. Of the 120 members who responded, 109 expressed definite interest in the new A.I.G. program.

Other activities include a three months' safety campaign, started July 1, and statewide safety forums designed to reach small companies which otherwise do not participate in organized safety work.



Rockwood FogFOAM SpotPROTECTION System automatically drenches loading platform.

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Each Rockwood SpotPROTECTION System is custom engineered to meet individual requirements of hazard. Systems handle WaterFOG, FogFOAM, FOAM or "WET". Three sizes: 2, 4 or 6 Heads. Operated automatically or

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Rockwood "Wet", available in 5 gallon cans or 50 gallon drums, increases penetration and extinguishing power of water. Excellent where fire is deep-seated or water scarce.

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## Memphis Cites Efforts to Muffle Noise

The steps Memphis, Tenn., took during the past year to maintain its international reputation as the "Nation's Quietest City," has been revealed by Willis L. Manning, President of the National Noise Abatement Council.

Memphis' efforts included newspaper and radio active cooperation, displays in department store windows, signs on theatre and radio station marquees, stenciled pleas for quiet on sidewalks, and car bumpers, and enforcement of noise ordinances, Mr. Manning revealed upon receipt of the Memphis report on its activities in the Annual Achievement Contest sponsored by the Council. Memphis has been cited by the Council since 1940 for its efforts to reduce needless noise.

"Results of our yearly efforts are very gratifying," Claude A. Armour, vice mayor and commissioner of fire and police, said in transmitting the report. "The citizens of Memphis accept noise abatement as their own individual responsibility and cooperate wholeheartedly.

"Every citizen is justly proud of this achievement. This coveted achievement was only attained by sincere work and the full cooperation of the citizens of Memphis and its civic organizations, service clubs, newspapers, radio stations and television stations.

The report pointed out that because of the city's 15-year-old campaign to reduce needless noise, enforcement of the anti-noise ordinance is now rarely necessary, but the "horn blower" is still to be reckoned with. This fellow who "uses his horn for a door bell" is promptly dealt with by neighbors who call the police to arrest him. He usually pays a fine.

"A horn blower," says the report, "will not be tolerated in the City of Memphis. The citizens of the City of Memphis have learned to appreciate the full benefits derived from Noise Abatement and are only too willing to cooperate by prompt complaint against any unnecessary noise."

Because of its reputation, Memphis has received many inquiries about its noise campaign from



cities throughout the country and from foreign countries, the report says, citing, for instance, an inquiry from Tokyo, where an anti-noise ordinance was passed several months after Memphis had told Japanese authorities how they dealt with noise.

## The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

EDWARD H. JONES, P.B.X. repairman, The Pacific Telephone & Telegraph Co., Smith Flat, Calif.—suspended respiration due to smoke inhalation.

JAMES L. ODGERS, lineman, The Pacific Telephone & Telegraph Co., Santa Ana, Calif.—drowning.

FRED B. FOSTER, chief line designer, The Pacific Telephone & Telegraph Co., North Hollywood, Calif.—suspended respiration due to fall (respiratory system temporarily paralyzed).

CHARLES L. MULLINS, station installer, The Pacific Telephone & Telegraph Co., Paradise, Calif.—drowning.

JAMES A. WELLS, toll repairman, The Pacific Telephone & Telegraph Co., Portland, Ore.—suspended respiration due to injury suffered in automobile accident.

ARTHUR L. KESTER, laborer with general utility crew, Pennsylvania Power & Light Co., Freeland, Pa.—gas asphyxiation.

RICHARD DOTSON, student, Port Angeles, Wash.—drowning.

GEORGE M. FRANCISCO, airman, United States Air Force, Albrook Air Force Base, Canal Zone—drowning.

LARRY RICHARD MULDOON, student, Fresno, Calif.—drowning.

WILLIAM FITZGERALD JAMISON, plant superintendent, Phillips Petroleum Co., Penwell, Texas—gas asphyxiation. Certificates of assistance to S. T. CARTER and D. W. WELLS.



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CITY \_\_\_\_\_

# CASES for COMMENT

Compiled by ROBERT D. GIDEL

Senior Engineer, Industrial Department, National Safety Council.

## Heat Exhaustion

One hot July day a lineman was working on an electric light pole. At 10:00 a.m., after he had been at work for two hours, he felt dizzy; he descended the pole, unassisted and safely. The temperature at this hour was 89 F. according to the U. S. Weather Bureau. After descending, the lineman consumed part of the contents of a cold bottle of a soft drink in a corner grocery store, whereupon he fainted and fell to the floor.

The employee suffered severe abdominal pain and had so much difficulty in breathing that artificial respiration had to be applied. He was taken to a hospital by ambulance. He was alternately coherent and incoherent for some time, but recovered and was discharged from the hospital three days after the injury.

Further investigation revealed that he had been working strenuously during weekends and at night on his own home. He had neglected to eat any breakfast on the morning of the injury and he had taken three salt tablets on an empty stomach. The Medical Department classified the case as heat exhaustion. The company questioned as to whether this should be charged as an industrial injury. It believed that the injury was not due to any temperature extreme, nor to the employee's duties on the job, but that it was because of his physical condition, and due to lack of good judgment in not keeping himself physically fit.

The Committee decided that this case should be included in the rates on the basis that this em-

ployee's work, which required working on a pole in the direct sunshine, subjected him to a greater exposure than other members of the public.

*Can we rely upon the individual employee's judgment on hot weather precautions? Was this employee informed of the dangers of heat exhaustion and the factors which contribute to such a condition?*

*We are too prone to rely on salt tablets or posters to do the job for us. Meetings on seasonal problems should be held at appropriate intervals and all factors discussed so that employees will know how to keep fit.*

## Horseplay

A company wrote: "S. A. said he fell down the stairs while coming from the men's room located on a balcony about 12 feet above the main floor level. He suffered a badly dislocated ankle.

---

**A COMPANY building up an outstanding safety record wants to make sure that no accidents are wrongly charged. This can be done through ASA Standard Code Z16.1-1945. If there is any doubt as to interpretation of the Code, the Committee of Judges of the American Standards Association Sectional Committee is available to review the facts.**

**A few of these cases are discussed here. It is hoped that they will aid readers not only in determining the chargeability of accidents but also in planning preventive measures.**

---

"Although his story was that he fell down the steps, there was good evidence of his having jumped from the railing of the balcony to the floor. Men who were nearby on the main floor heard a loud thud and turned to find S. A. leaning against a 'hyster' truck, which was not at the foot of the steps, but under the balcony. If he had fallen down the steps he couldn't have reached this point so fast—especially with his injured ankle.

"He made the statement before his supervisor that he had jumped from the balcony. He went on to say, however, that if they called his family, 'don't tell them I jumped, they'll kill me.' The supervisor asked him why he had jumped and S. A. said, 'I don't know.'

"S. A. told the safety director he had fallen down the steps. When asked where they had picked him up, S. A. said, 'at the bottom of the stairs.' Witnesses said they picked him up under the balcony."

Further investigation revealed that S. A. had jumped from the balcony—he didn't just fall from it, the company reported. This was the third time S. A. had come through some "show-off" episode. At one time, for example, he had bounced up and down on the bucket of a hyster truck in front of an audience of fellow employees, but fortunately was not hurt. When asked why he had jumped, the employee said, "I don't know—every once in awhile I take a notion to do something like that." The injured lost two days as a result of the fall from the balcony.

—To page 58



## WITH A KIDDE CO<sub>2</sub> SYSTEM!

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Please send pH-6, Neutra-Foam literature and samples.

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### Headline That Isn't Printed

—From page 19

Public Relations Through Safety." Mr. Knowlton made some interesting observations which I feel are worth repeating.

He remarked that we, in the petroleum industry, like almost anyone else, may think of safety as something that concerns only the safety engineer and the individual employee. But the influence of a good safety record goes much farther than that as a contributor to good public relations for a company.

Any company with a reputation for frequent accidents or fires certainly does not and can not stand very well with the public; in fact, with any of the seven publics that observe the company's operations. These seven publics which must be considered in a proper public relations program are customers, employees, the community, the industry, competitors, stockholders and government.

Obviously a good safety record makes a good impression on the individuals in all of these seven publics.

However, of major concern, according to Mr. Knowlton, are the practical problems of public relations which arise because of accidents, fires, and real or imagined threats to public health and safety, which is an external matter primarily of relationships with newspapers and public authorities.

### What Is News?

Let us start then with newspapers. He indicates there seems to be a feeling upon the part of some operating men that newspapers are always anxious to play up accidents or fires out of proportion to their importance. These critics contend that many newspapers are capitalizing upon sensationalism, with a morbid interest in injury and destruction. Well—what is news? In the main we find that news is divided into two classifications; first, something important; second, something unusual.

The ideal requirement is something both unusual and important. An accident or fire is news for the very reason that it falls into the

ideal category. This is a basic principle of reporting that must be understood and considered.

The unusual makes a story. For example, on a certain Saturday night, in a certain city, 100,000 people are out on the streets driving cars. Only one has an accident. What's the headline the next morning?

Imagine a newspaper using the heading—"Driving 99.9 Per Cent Safe," and then starting off its story with the words, "Out of 100,000 drivers who were on the streets last night in this city, only one got into an accident?" You can't imagine this—nor can I. You know how the headline would read. It would read "Reckless Driver Crashes."

### The Unusual Is News

No attention would be paid in the news to the 99,999 drivers who didn't get into trouble because that's normal. There is nothing unusual about that. The one reckless driver out of the 100,000, who crashed his car, is the one who made the news.

The interest shown by newspapers in accidents and fires stems largely from the fact that industrial plants have been getting safer and safer, and accidents and fires are, therefore, becoming more unusual. In other words, newspaper interest is a measure of the industry's own fine progress.

When an accident occurs, the first instinct of some operating men, is to say "Keep the reporters out." This, certainly is not a wise course of action. In the first place, the reporter earns his living by getting a story for his paper. That's his job. When we try to keep him from getting the facts, we cannot help but gain his ill will. That's only human nature. And if we gain his ill will, we may not expect him to go out of his way to use restraint in his reporting of the accident.

Second, and perhaps more important, if the reporter cannot get facts immediately from some one in authority, then he has to put his story together out of rumors picked up second and third hand from people who actually don't know what happened. Practically

—To page 87



**"...through a  
person-to-person  
canvass..."**

**ROBERT S. MACFARLANE**

*President  
Northern Pacific Railway Company*



*"Combine a good product with enthusiastic salesmanship, capably directed, and favorable results are reasonably certain. This winning combination through a person-to-person canvass recently added more than 8,000 employees of the Northern Pacific Railway to the Payroll Savings Plan for purchase of U. S. Savings Bonds. It is gratifying to me that the organized efforts of Northern Pacific personnel not only have resulted in substantially increased systematic saving and a greater investment in America's future by our employees, but that the Treasury Department is using our campaign as an example throughout the railroad industry in its efforts to step up regular purchases through payroll deductions."*

The U. S. Savings Bond is a good product . . . Payroll Savers are enthusiastic Bond Salesmen . . . company spirit was good because everybody on the Road knew that Mr. Macfarlane was 100% behind the effort to increase employee participation in Northern Pacific's Payroll Savings Plan.

But, there was still another, and very important, factor in the success of Northern Pacific's campaign that added more than 8,000 new Payroll Savers — a Person-to-Person Canvass.

A good Person-to-Person Canvass is an organized employee effort that puts a Payroll Savings Application Blank in the hands of every man and woman in the company. There is no pressure, no drive to "sign up." Every employee is free to make his own decision. That's all there is to a Person-to-Person Canvass, but in literally thousands of companies, as on the Northern Pacific, a high percentage of employees want to build

their personal security and are quick to join the Payroll Savings Plan when its availability and many advantages are brought to their personal attention.

Upwards of 8,000,000 employed men and women are enrolled in the Payroll Savings Plan, most of them as a result of Person-to-Person Canvasses. Each month these Payroll Savers invest more than \$160,000,000. The 1954 goal is 9,000,000 Payroll Savers. It can be reached if you and other executives will take a personal interest in the Plan and what it means to your employees, your company and your country.

If your company has the Payroll Savings Plan your State Director will be glad to help you organize a Person-to-Person Canvass that should increase employee participation to 50%, 60% or more. If you do not have a plan he will show you how easy it is to install one. Write to Savings Bond Division, U. S. Treasury Department, Washington, D. C.

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Note depth and uniformity of abrasive grain.



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### Cases for Comment

—From page 54

The company asked whether this injury should be counted on the basis that this was a form of horseplay or showing off, or whether the injury should be considered as purposely self-inflicted, and hence should not be included in the rates in accordance with Paragraph 2.4 of the Code.

The Committee decided that this injury should be included in the industrial injury rates as a horseplay case. The members of the Committee did not believe that this employee had jumped with the intent of injuring himself.

*What should be done with these "show-off" characters? Should they be given repeated chances to kill themselves or should some method of training be used or supervision clamp down in order to see that they do not put themselves or others in jeopardy?*

*This type of case indicates the importance of detailed investigations of injuries. A good investigation will reveal physical deficiencies which must be corrected, also unsafe attitudes, unsafe practices and individuals who need specialized attention.*

### Same Injury

A textile employee had suffered a sacroiliac sprain several years ago and had been wearing a brace for the past three years.

On the day in question, this employee, when working on a loom, with no lifting and no unusual movements, felt a pain in his back. He reported for work and worked three hours the following day, but had to leave work because of severe pain. He did not report for work the next day, but thereafter was able to return to his regular work.

In its investigation, the company was unable to establish any definite incident which might have aggravated this pre-existing back condition. This employee was referred to the company doctor, and after complete examination including X-rays, the doctor stated that this recent injury was a recurrence of his previous injury. This was the same employee mentioned

in a previous case history.

The Committee decided that the recent injury should not be included in the rates on the basis that the employee's disability was a recurrence of his previous injury and not the result of any new incident arising out of his employment.

*Here we have a fine distinction between what would be a chargeable case under Section 2.3 of the code, because of aggravation of a pre-existing physical deficiency, and a situation which is not chargeable since it is a recurrence of a previous injury. It is difficult for the Committee of Judges to make decision in close matters of this type when the facts reported are not very substantial. In general, each case must be decided individually upon its own facts and merits using the ASA Code Z.16.1 as a basis for the conclusion.*

#### **Announce Safety Courses At N. Y. University**

The Fall term, evening program in industrial and traffic-accident prevention training offered by the Center for Safety Education, New York University, begins September 28, 1954. The present curriculum makes it possible for students enrolled for a full program of 11 courses to fulfill requirements for a certificate in Industrial Safety, or a Certificate in Traffic Safety.

Courses to be offered are:

Accident Prevention—Its Background, Objectives, and Relationships

The Philosophy and Basic Principles of Accident Prevention

Industrial Hazards—Mechanical and Personal Control Methods

Fire Prevention and Protection Inspection

Organization of Fleet Safety Programs

Vision in Industrial Safety and Motor Vehicle Operations

Effective Speaking in Accident Prevention

Principles of Safety Inspection

Information about courses and activities may be secured by writing the Center for Safety Education, New York University, Washington Square, New York 3.



## **ACCO Registered<sup>\*</sup> SLING CHAINS**



### **You get more than chain when you buy ACCO Registered Sling Chains**

• This 125,000 psi ACCO Registered alloy sling chain has great strength, yet it's lightweight and easy for men to handle. It will lift a variety of expensive loads safely over costly machines. You can be sure of that because it's ACCO Registered.

ACCO Registered is more than a name. It's more than a registered trade mark of American Chain & Cable. It is the standard by which all other slings are judged. It means that you can equip your shop with dependable "lifting tools" specifically designed for highest efficiency and long life by trained engineers who spend all their time designing and testing slings.

A survey of your sling requirements will cost you nothing. See your ACCO Registered Sling Chain distributor today or write our York, Pa., office for details. <sup>\*</sup>Trade Mark Registered



#### **WHAT "ACCO REGISTERED" MEANS . . .**

- 1 The best material
- 2 Unit safety factor (on bodies, rings, links, hooks)
- 3 Proof test of complete sling to twice the working load limit
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- 5 Metal identification ring on each sling
- 6 Signed Registry Certificate with each sling



#### **American Chain Division AMERICAN CHAIN & CABLE**

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# THE ACCIDENT BAROMETER



Prepared by the Statistical Division,  
National Safety Council

ACCIDENTAL DEATHS in April totaled approximately 7,000 or 3 per cent below April a year ago. Most of the reduction occurred in motor-vehicle fatalities but deaths from work accidents also were less numerous. Public non-motor-vehicle fatalities showed an increase over last year, while deaths from home accidents showed no change.

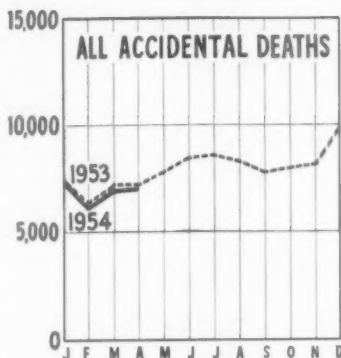
The four-month death toll was 27,600, a reduction of 1 per cent from 28,000 for the same period in 1953. Decreases in deaths from motor-vehicle and work accidents were all but offset by increases in deaths from public non-motor-vehicle and home accidents.

## Motor-Vehicle Deaths

The motor-vehicle death toll in April was 2,620, a drop of 8 per cent from April a year ago.

The death toll for the four months was 10,570, a reduction of 5 per cent from 11,100 last year. The four-month death rate per 100,000,000 vehicle miles was 6.1, a decrease of 9 per cent from the 1953 comparable rate of 6.7.

Of the 47 states reporting for four months, 28 had fewer deaths than last year, 1 showed no change, and 18 had more deaths. Reporting cities with populations



	1954	1953	Change
April	7,000	7,200	-3%
Four Months	27,600	28,000	-1%

of 10,000 or more had a reduction of 13 per cent for April and 11 per cent for the first four months.

Regional changes from 1953 in the four-month death totals were:

North Atlantic	-9%
South Atlantic	-11%
North Central	-2%
South Central	+4%
Mountain	+2%
Pacific	-18%

## Work Accidents

Deaths from work accidents totaled 1,200, roughly 100 deaths fewer than occurred in April last year. The four-month death total was 4,500, a reduction of 4 per

cent from 1953.

The April frequency rate for plants in 18 sectional accident prevention contests conducted by the National Safety Council was 5.81, a reduction of 4 per cent from last year. The April rate for plants in community council contests was 6.05, a decrease of 15 per cent. In sectional contests, the four-month rate was 5.56, a reduction of 9 per cent; in community council contests, it was 6.07, a decrease of 7 per cent.

## Public Deaths

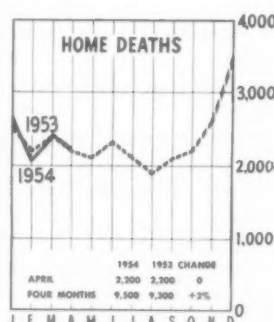
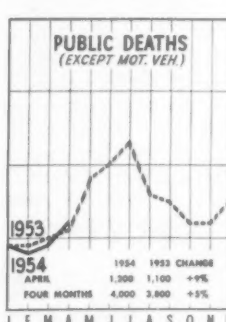
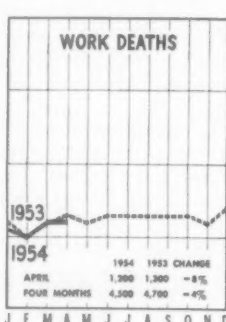
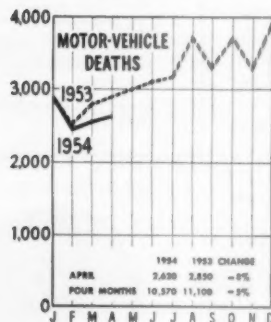
There were approximately 1,200 deaths from public non-motor-vehicle accidents in April, an increase of 9 per cent over 1953.

The four-month total was 4,000, or 200 more than occurred during the same period last year. There were increases in deaths from burns, firearms accidents and falls. Decreases were reported in fatal transportation accidents and drownings. Most of the increase occurred among persons 65 years and older but deaths of children 5 to 14 years old and persons 25 to 44 years of age also were up.

## Home Deaths

Home accident fatalities in April numbered about the same as in April, a year ago—2,200.

The total for four months was 9,500, an increase of 2 per cent over 1953. There were increases in mechanical suffocation deaths, burns and firearms accidents. Falls and poisonings resulted in fewer deaths than last year. Small decreases occurred in deaths of persons 15 to 24 years and 65 years and over. Other age groups showed increases.







## As never before...

*Today we are all aware of the disastrous and far-reaching effects of a major industrial fire. Owners . . . management . . . employees . . . customers . . . almost every one suffers, in one way or another, when a serious fire strikes.*

Could it happen to your plant? Now is the time to take a long, close look at your plant's fire protection measures. Remember, the local fire protection ordinances normally only set minimum standards. Compliance with these ordinances is no guarantee of fully adequate firesafety.

One way to be absolutely sure of the efficiency of your plant's fire protection facilities is to call in an expert C-O-

TWO Fire Protection Engineer. He is ready and willing to help you with any or all industrial fire hazard problems.

There is a personal sense of responsibility inherent with C-O-TWO Fire Protection Engineers that assures you of fully adequate firesafety . . . a definite plus in your behalf. Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means top quality backed by experienced engineering that results in operating superiority for you at all times.

### WHEN BUSINESS STOPS . . . INCOME STOPS!

Don't take chances with your investment. Secure the benefits of highly efficient fire protection engineering today . . . our extensive experience over the years is at your disposal without obligation. Get the facts now!



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Squeeze-Grip Carbon Dioxide Type Fire Extinguishers  
Dry Chemical Type Fire Extinguishers  
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Type Fire Extinguishing Systems  
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## PERSONALS



### Clark Bridges Joins AMA Staff

CLARK D. BRIDGES joined the staff of the Council on Industrial Health, American Medical Association, June 1, 1954. He will devote attention to new scientific developments, research and its application, clearing house services and liaison with allied non-medical scientific bodies. His past experience will provide helpful contacts with official agencies in the fields of industrial hygiene, safety, nursing, personnel work, and casualty insurance. He will give special attention to rehabilitation and job analysis in the employment of handicapped workers.

During the past ten years Mr. Bridges has been head of safety engineering, industrial hygiene, and health and safety education services for the Zurich-American Insurance Companies, Chicago.

He is a charter member of the American Industrial Hygiene Association and was the first president of its Chicago Section. He is also a member of the American Society of Safety Engineers, the Veterans of Safety, and the President's Committee on Employment of the Physically Handicapped.

Mr. Bridges is probably best known for his teaching of hygiene and safety subjects, and for his research in techniques for employing disabled workers. His book, *Job Placement of the Physically Handicapped*, is a standard reference in this field.

### Heads Better Light Bureau

H. A. STROUD, promotion manager of the Monongahela Power Company, Fairmont, W. Va., has been elected chairman of the Better Light Better Sight Bureau. He succeeds S. L. Drumm, vice pres-

ident in charge of sales, New Orleans Public Service Inc., who has been chairman of the Bureau since 1952.

Better Light Better Sight Bureau was organized in 1934 under the sponsorship of the electric industries to foster through educational means a better understanding of the relationship of light and sight. The Bureau is marking its 20th Anniversary this year.

### Promoted by Hercules

GILBERT E. CAIN, safety supervisor for Hercules Powder Company's plant at Parlin, N. J., has been named assistant to Charles L. Jones, safety engineer for the company's Engineering Department in Wilmington, Del., effective August 1.

A native of New York City, Mr. Cain is a graduate of Brown University. He joined Hercules in 1940 as a draftsman in the Engineering Department, and in 1941 became assistant to the project engineer for the Missouri Ordnance Works, Louisiana, Mo.

In June, 1943, Mr. Cain was named construction engineer for Missouri Ordnance Works until the plant went into operation, and then served as supervisor of the finishing and high pressure areas. In November, 1943, he was transferred to Hercules, Calif., as maintenance supervisor. Three years later he was transferred to the company's Engineering Department in Wilmington, where he worked on design of the hydro-abitol section of the Synthetics Department's Burlington, N. J., plant.

In 1948, he was transferred to Parlin as assistant safety super-

### AVAILABLE

Safety Director, 10 years experience in chemical manufacturing and construction. Excellent record. Graduate civil and industrial engineer, member ASSE. Prefer mid-west but will relocate. References on request. Address Box 441, NATIONAL SAFETY NEWS.

visor. He became safety supervisor at the plant in 1952.

Mr. Cain is a member of the American Society of Safety Engineers; the New Jersey State Industrial Safety Commission; the Codes, Rules, and Regulations Commission of New Jersey; and the Society of Fire Protection Engineers.

### Safety Equipment Assn. Elects Officers

S. C. HERBINE, Willson Products, Inc., Reading, Pa., was elected president of the Industrial Safety Equipment Association, Inc., at the annual convention of the association held in Colorado Springs, Colo., in June. Other officers for the current year are:

Vice-President—J. A. Brewer, Industrial Gloves Co., Danville, Ill.

Trustees, two-year term—E. W. Merry, Mine Safety Appliances Company, Pittsburgh, Pa.; J. T. Monahan, American Optical Company, Southbridge, Mass. John N. Liautaud, Fendall Company, and R. J. Russell, United States Safety Service Company, carry over as members of the board until next year. Edison L. Wheeler, junior past president, continues as a member of the board for another year.

## Obituary

### FORREST H. SHUFORD

FORREST HERMAN SHUFORD, North Carolina's Commissioner of Labor, died of a heart attack in Washington, D. C., May 19.

Commissioner Shuford suffered the unexpected attack while in Washington attending the U. S. Children's Bureau Conference on "Children of Migrant Workers."

Mr. Shuford had served continuously as Commissioner of Labor since 1938. Originally appointed to the office in 1938 by the late Governor Clyde R. Hoey, he was elected by the people in

—To page 83

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- Keeps hands safe from chemicals
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# THE SAFETY LIBRARY



Books, Pamphlets and Periodicals of Interest  
to Safety Men

Compiled by Ruth Parks, Librarian, NSC

## BOOKS AND PAMPHLETS

### Industrial Organic Solvents

*Toxicity of Industrial Organic Solvents, Revised in Consultation with the Toxicology Committee*, By Ethel Browning. Published by the Chemical Publishing Co., Inc., 212 Fifth Ave., New York, N. Y., 1953. VII + 411 pages. \$8.00.

Most people who work in industrial health or who are responsible for people working with solvents in any quantity will be familiar with the first edition of this report which was published in 1937 as report No. 80 in the Medical Research Council's Industrial Health Research Board Reports. At that time it was almost unknown in the field. While not greatly detailed it gave sufficient information on most of the solvents used in quantity in industry to permit setting up conditions for their safe use.

The present revision was undertaken in 1946 when it had become obvious that the previous edition was getting badly out of date, primarily because of the greatly increased number of solvents used in large quantity in industry in the last few years.

The 1953 edition lists 138 compounds under the headings of hydrocarbons, chlorinated hydrocarbons, alcohols, esters, ethers, ketones, glycols and their derivatives, amines and coal tar bases, nitro-compounds, and miscellaneous compounds which are carbon disulfide, acetic acid and acetic anhydride, cresols, dimethyl sulfate, and silicones and silane intermediates.

Notable omissions are the trichloroethanes, halogenated hydrocarbons other than the chlorine derivatives—particularly the fluorinated compounds are notably

absent, the phosphate esters used in the paint lacquer and plastic industries and all of the compounds which are commonly classified as plasticizers.

The bibliography is quite comprehensive in both the European and the American literature through 1947, the references for 1948 through 1950 are scattered rather sparsely and nothing was seen subsequent to 1950. This is rather unfortunate in view of the large amount of work, in this country in particular, in the last three years.

These rather minor complaints do not detract in any serious way from the real value of the book. It is a sound discussion of the toxic effects of the chosen solvents with a very clear differentiation between the effects seen in animal experimentation and those found in actual industrial experience with men exposed to the materials. A very considerable effort has apparently been made to find and analyze cases of human intoxication with the various solvents and it has been very successful.

The material is presented, not as individual case reports but as summaries, which are well and clearly written so that it is one of the easiest books of its type for the nonprofessional reader to un-

### Index to Vol. 69 Now Available

*Index for the National Safety News, Vol. 69 (January through June, 1954)*, is now ready for distribution. It may be secured by writing to the National Safety Council Library, 425 N. Michigan Avenue, Chicago 11,

derstand. For the professional reader it is a painstaking summary of the work which has been done on these solvents and should be classed as one of the essential source books.

F. A. Van Atta

### Coke Products

*Injury Experience in the Coking Industry*. By Seth T. Reise and others. Published by U. S. Bureau of Mines, 1954, 26p. Bulletin 527, 25c. For sale by the Superintendent of Documents, Washington 25, D. C.

### Construction

*Selected Bibliography on Building Construction and Maintenance*. By L. D. C. Nobel. Published by the National Bureau of Standards, 1954, 35p, 30c. For sale by the Superintendent of Documents, Washington 25, D. C.

### Fire Protection

*Industrial Fire Brigades Training Manual*. By Horatio Bond. Published by National Fire Protection Association, 60 Battery March St., Boston 10, 1954, 158p, \$2.00

*Standards of the NBFU for the Installation, Maintenance and Use of Proprietary, Auxiliary Remote Station and Local Protective Signaling Systems for Watchman, Fire Alarm and Supervisory Service*. Published by National Board of Fire Underwriters, 85 John St., New York 38, 1954, 29p. Free (NBFU No. 72).

### Inspection

*Inspection Activities and Industrial Safety, with Particular Reference to New York State*. Published by Division of Research and Statistics, State of New York—Labor Department, 80 Center St., New York 13, 1954, 148p. Publication No. B-72. No price listed.

### Magnesium

*Standards of the NBFU for the Storage, Handling and Processing of Magnesium*. Published by National Board of Fire Underwriters, 1954, 16p. Free (NBFU No. 48).

### Mines

*Portable Methane-Detecting Ap-*  
—To page 105



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# Fire Protection Is Built-In

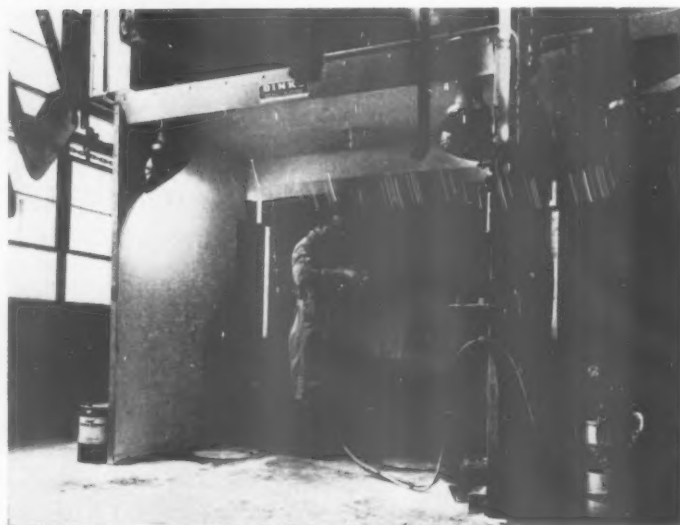


Paint spray room is protected by automatic sprinkler system and special scored glass windows which will shatter if an explosion occurs, venting its main force. Thick fire wall separates paint spray room from rest of plant.

An example of built-in fireproof construction is offered to industrial firms building new plants in suburban or rural areas by an ultra-modern \$750,000 plant recently opened in St. Charles, Ill., by Bert Mills Corporation, manufacturer of automatic coffee vending machines.

The plant, housing the world's largest operation devoted solely to the manufacture of coin-operated coffee vendors, is described by insurance officials as "a model of fireproof construction."

The firm's insurance advisors were called in by Mills officials at the initial planning stage for the new building. The result of this unusual move is "the most fireproof plant possible to build," and minimum fire insurance rates for a factory structure in a rural area.



Main safety feature of the giant plant, which is presently geared to double the firm's production, is a single-piece, 40,000 square foot roof of poured concrete. Supported by concrete columns, the roof will not give way even under the intense heat that buckles steel girders.

This move, according to Bert Mills, company president, was

motivated by General Motor's recent experience when fire destroyed a large automatic transmissions plant in Livonia, Mich. Terrific heat buckled steel columns and the roof came crashing down.

This type construction added about 35 per cent to the buildings roof construction costs, Mills disclosed, but said "it is well worth the investment if it means we can save machinery, stock, and most important, lives."

Confronted with limited fire protection facilities and high fire

Separate paint storage room with no direct access to main plant was built on advice of insurance officials. Single entrance has two doors—one (at left) leading to plant and the other into paint storage room which is protected by automatic sprinkler system. Adjoining storage area is separate pump housing room with two deep wells assuring permanent water pressure to fight fire.

insurance rates in the suburban St. Charles area, Mills called in his insurance advisors to work directly with the architect in both the designing and construction steps.

Insurance officials advised building firewall sections between plant and offices, and made recommendations on water well and pump housing placement, fire hydrant

# Vacation Bound?



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Cleveland to Buffalo . . . .	55¢
New Orleans to Houston . .	80¢
St. Louis to Hot Springs, Ark.	80¢
Los Angeles to Boston . . .	\$2.00

These are Station-to-Station rates for the first 3 minutes, after 6 o'clock every night and all day Sunday. They do not include the federal excise tax.

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Sub-assembly area has concrete columns supporting single-piece poured concrete roof. Columns will resist intense heat that can collapse steel columns. This feature, recommended by insurance men during the planning stage, plus low fire hazard, made it possible to dispense with sprinklers.

placement, and a number of other fire protection features.

Other built-in fire protection features include firewalls around the paint spray and paint storage areas, and automatic sprinkler systems in those departments. The

firm dug its own wells to assure water supply at all times. Two fire hydrants have been placed on diagonal corners of the building, and an employee fire brigade is trained to go into action the instant fire is discovered.

## Copper and Brass Assn. Holds First Contest

Presentation of nine awards at Hot Springs, Virginia recently climaxed the first year's safety contest sponsored by the Copper and Brass Research Association. Arthur S. Johnson, vice-president, American Mutual Liability Insurance Company of Boston, made awards to the following firms:

Group I: 1st Award, Baltimore (Tube) Division of Revere Copper and Brass Incorporated; 2nd Award, Michigan Division of Revere Copper and Brass Incorporated; 3rd Award, Cleveland Mill of Chase Brass and Copper Company, Incorporated.

Group II: 1st Award, Wilbur B. Driver Company; 2nd Award, Baltimore (Canton) Division of Revere Copper and Brass Incorporated;

3rd Award, Pacific Coast Division of Revere Copper and Brass Incorporated.

Group III: 1st Award, The Linderme Tube Company; 2nd Award, A. H. Wells & Company, Incorporated; 3rd Award, Viking Copper Tube Company.

The contest was under the direction of the Safety Subcommittee of the CABRA Labor Committee. Its members are C. B. Knibbs, The American Brass Company; A. P. Doyle, Bridgeport Brass Company; C. L. Rienzo, Revere Copper and Brass Incorporated; W. J. McChesney, Scovill Manufacturing Company; F. A. Gerard, Western Brass Mills; T. E. Veltfort, Copper and Brass Research Association; F. L. Sco-

vill Jr., Copper and Brass Research Association. During the past year the committee has been gathering information for the development of safety programs for the brass mill industry.

One of its first accomplishments was the adoption by the industry of regular standard reports on accident statistics. This recommendation follows the rules of the National Safety Council with regard to the method of compiling industrial injury rates. Such uniformity permits better comparisons of safety accomplishment within the industry and thus permits better measurement of the effectiveness of various safety practices.

The contest was judged on the basis of these statistics. To assure equal opportunity for all competing, the companies were divided into three groups according to size.

In addition to the methods of reporting and the successful contest which resulted, the Safety Subcommittee has made significant progress in the preparation of an *Accident Prevention Guide* for the brass mill industries. This Guide is being designed to furnish a reference for the industry on such things as:

1. Organizing a safety program.
2. Safety inspection.
3. Accident records and analysis.
4. First aid services.
5. Safety comments.

Some sixty companies in the brass mill industry are reporting their safety achievements in 1954. Awards will again be made to the winners at the annual meeting of the Copper and Brass Research Association in 1955.

Little Mary: "Mother, they're going to teach us domestic silence at school, now."

Mother: "You mean domestic science, don't you?"

Father: "There's a bare hope our little girl means what she's saying."



*What is there about Wausau, Wisconsin, that makes it the ideal home for one of the world's most important insurance companies?*

*Employers Mutuals invited the president of The Chicago Board of Trade to visit its home town and find out.*

# Wausau Story

by SYLVESTER J. MEYERS, President, Chicago Board of Trade



"...an amazing variety..."  
Mr. Meyers (left) and Allen Abrams.



"...preventing fires wasn't just talk." Mr. Meyers (left) and Mr. Roehl visit Fire Chief Petzold.

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## Employers Mutuals of Wausau



# INDUSTRIAL HEALTH



Abstracts of current literature  
on Industrial Hygiene, Medicine, and Nursing

BY F. A. VAN ATTA  
Industrial Department, NSC

## Vacations That Help

*Making the Most of Vacation to Boost Your Efficiency*, by Margaret L. Jones. *Dun's Review and Modern Industry*, pages 39 through 41, June, 1954.

IN A RECENT SURVEY of vacation habits made by *Dun's Review and Modern Industry*, half of the plant managers said that they had taken a vacation every year for the past five, and almost half of those vacations involved unbroken absences from work of from two to three weeks or more.

Industrial managements are generally convinced of the value of vacations in protecting the health and efficiency of workmen but the managements can provide only the time; the man has to choose his own vacation.

The executive, and probably everyone else, needs mental relaxation and a change of activities considerably more than physical rest. An engineer and designer finds working on a farm a satisfactory type of vacation, but sports are the preferred form of physical activity for most people on vacations.

The things that go along with sports seem to be more appealing than the sports themselves, such as the absence of telephones and noise in hunting and fishing areas and the fresh air and deliverance from schedules which go with other games.

In spite of the preference for sports as the thing most enjoyed, the majority of the people polled indicated that travel was a considerable part of their vacation plans, meaning, in most cases, taking the family to some sort of resort. This sort of vacation is

apt to be a routine too much like the office routine to provide the best type of vacation. The accent in a vacation should be on change and avoidance of routine comparable to that of the job.

A considerable number of executives are enthusiastic about the practice of taking long week ends of three or four days several times a year as getting away from the necessity for delegating responsibility and at the same time keeping interest and productivity on an even keel.

Probably one of the more important uses of vacations is that going away for some time and not keeping in touch with the routine destroys the feeling that the man is indispensable to the job, since the business goes on, the decisions get made and action is taken, whether or not he is there.

However and wherever it is done, the major idea is to relax

and think of something besides work for the whole of the vacation, whether it is long or short.

## Eye Conservation

*The Eyes of the Industrial Worker, Vision in Small Plants Metal Trades—Detroit Area*, by Ralph W. Ryan and O. T. Mallery, Jr. *Industrial Medicine and Surgery* 23:243-248 (June, 1954).

THIS ARTICLE is a condensed report of a survey conducted by the Institute of Industrial Health of the University of Michigan in 1952 to find out something about the: nature and extent of eye programs; nature and extent of general medical services; the frequency and types of eye injuries; the mechanical facilities for eye protection; the extent of education in eye and vision conservation; the nature and adequacy of medical records; and the levels of elimination in small plants in the Detroit area.

Metal working plants were chosen because they are the dominant type in the Detroit area and small plants were defined for the purpose of the study as having fewer than 1,000 employees and more than 100 for the plants studied in this survey. Of 203 plants in the area which met these specifications, 53 were picked for the survey. The range in these plants was from 120 to 730 production workers with an average of 260 production employees.

The survey was carried on by an ophthalmologist who had previously worked as an industrial hygienist and was familiar with the manufacturing operations found in the plants. The standard industrial vision appraisal form



"He was only half safe!"

of the National Society for the Prevention of Blindness was used for recording the results of the survey.

The general medical services found in the plants were not very complete. Only four of the 53 plants had a physician who actually spent any time at all in the plant and only 15 had nurses either full or part time. Two of the plants had no physician and 17 had only first aid cabinets or first aid kits.

Only one plant had fountains specifically for flushing splashes of chemicals from the eyes and in only four others were the employees instructed to use drinking fountains if their eyes were splashed with corrosive materials.

First aid records were not kept in about a third of the plants.

Forty-one plants had visual test programs in 40 of which the test was made by the physician as part of the routine physical pre-placement examination and in five also in examinations of employees returning to work. In 33 instances, the only test was distance acuity.

All but one of the plants had safety goggles available, but 13 of them had no maintenance program for the goggles and 42 of them had no personalized fitting of eyewear. In 13 plants, corrective lenses and safety glasses were available, in six of which the corrective lenses were provided by the management, in six shared by management and employee and in one available only at the expense of the employee.

Lighting was generally fairly good. In 70 per cent of the plants, it was equal to or above the standards recommended in the American Recommended Practice of Industrial Lighting.

Some type of eye safety education was used in all of the plants, but less than half used any methods in addition to personal instruction by the foreman, and only six of the plants used all of the common methods of safety education.

Since a number of the plants kept no first aid records, it was difficult to get injury data of precision, but it appears that, of the 13,757 production employees,

—To page 82



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(From page 38)

Shasta Plywood Division, Redding, Calif.

United States Rubber Co., Shelbyville Mills.

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—Gary Sheet and Tin.

—Gary Steel Works.

—McDonald (Ohio) Works.

—National Tube Division, Ellwood Works, Ellwood City, Pa.

—Ohio Works, Youngstown.

—South Works, Chicago.

—Tennessee Coal & Iron Division, Concord Coal Mine.

—Edgewater Coal Mine.

—Hamilton Coal Mine.

## AWARDS OF MERIT

Allegheny Ludlum Steel Corp., West Leechburg (Pa.) Plant No. 1.  
Allentown Portland Cement Co., Evansville, Pa.

Alpha Portland Cement Co., St. Louis, Mo.

Ash Grove Lime & Portland Cement Co., Chanute, Kans.

The Atchison, Topeka, and Santa Fe Railway System (Entire company).

Bethlehem Steel Co., Fabricated Steel Construction, Johnstown Works.

—Leetsdale Works.

—Shipbuilding Division, Beaumont Yard.

Canada Cement Co., Ltd., Hull, Canada.

Canal Zone Government, Maintenance Division, Panama Canal Zone.

Carbide & Carbon Chemicals Co., Oak Ridge National Laboratory.

Chain Belt Co., Plant No. 3, Milwaukee.

Chicago Bridge & Iron Co., Greenville (Pa.) Plant.

Chicago Carton Co., Chicago. (Entire company).

Container Corp. of America, Boston (Mass.) Plant.

—Manayunk Plant.

Davidson Chemical Corp., Curtis Bay Works, Baltimore.

—Home Office.

—Nashville Unit.

Deere & Co., John Deere Waterloo (Ia.) Tractor Works.

E. I. du Pont de Nemours & Co., Belle Constructions.

—Birmingham Works.

—Carl Junction Works.

—Carothers Research Laboratory.

—Clinton Plant.

—Doyle Works.

—Engineering Research Laboratory.

—Grasselli Research Laboratory.

—Houston Works.

—Jackson Laboratory.

—Kingston Plant.

—Mechanical Development Laboratory.

—Newark Plant.

—New Brunswick Works.

—Newburgh Plant.

—Perth Amboy Plant.

—Petroleum Laboratory.

—Philadelphia Finishes Plant.

—Pioneering Research Laboratory.

—Rayon Research Laboratory.

—Spruance Construction.

—Yerkes Research Laboratory.

Ford Motor Co., Aircraft Turbine Plant, Detroit.

—Atlanta Assembly.

—Brooklyn Plant.

—Buffalo Assembly.



"But, I tell you—this is how accidents start."

—Chester (Pa.) Assembly.

—Dearborn (Mich.) Assembly.

—Dearborn Stamping Plant.

—Dearborn Tool and Die Plant.

—Fargo (N. D.) Parts Depot.

—General Stores, Dearborn, Mich.

—Houston (Texas) Parts Depot.

—Kansas City Aircraft, Claycomo, Mo.

—Louisville Assembly.

—Manchester (Mich.) Plant.

—Mound Road Plant, Centerline, Mich.

—New Orleans Parts Depot.

—Omaha Parts Depot.

—Standard Transmission and Radiator Plant, Dearborn, Mich.

General Electric Co., Telechron Department, Worcester, Mass.

—Trumbull Components Department.

Green Bay Paper & Pulp Co., Green Bay, Wis. (Entire company).

I B M Corp., Plant No. 3, Washington, D. C.

Ideal Cement Co., Colorado Division, Portland, Colo.

Lehigh Portland Cement Co., Buffalo (N. Y.) Plant.

—Oglesby, Ill.

The Lihue Plantation Co., Ltd., Lihue, Kauai, T. H. (Entire company).

Eli Lilly and Co., Indianapolis Plant.

Lone Star Cement Corp., Bonner Springs (Kans.) Unit.

—Houston, Texas.

—Hudson, N. Y.

—Nazareth, Pa.

The Maytag Co., Plant No. 1 Conventional Washers, Newton, Ia.

Montgomery Ward & Co., Baltimore (Ohio) Unit.

Nash-Kelvinator Corp., Grand Rapids Plant No. 5.

National Biscuit Co., Atlanta Unit.

—Los Angeles.

—Newark, N. J.

—Pittsburgh.

National Portland Cement Co., Bethlehem, Pa.

W. C. Norris Mfg. Co., Inc., Tulsa Plant.

North American Cyanamid, Ltd., Ingersoll Quarry, Niagara Falls, Ontario, Canada.



Pan American, Petroleum & Transport Co., Pan American Refining Corp., Texas City Refinery.

Penn-Dixie Cement Corp., Plant No. 4, Nazareth, Pa.

Radio Corporation of America, Camden, N. J. (Entire company).  
—Bloomington (Ind.) Plant.

Republic Steel Corp., South Division, Canton, Ohio.

Reynolds Metals Co., Jones Mills Plant, Malvern, Ark.

—Richmond Radiator Co., New Castle, Del.

Schenley Distillers, Blatz Brewing Co. FH-10.

—Frankfort FG-31.

Joseph Schlitz Brewing Co., Milwaukee (Entire company).

Southwestern Portland Cement Co., Victorville, Calif.

Talon, Inc., Plant No. 6, Cleveland, Ga.

Tennessee Valley Authority, Johnsonville Steam Plant Branch.  
—Office of Chemical Engineering, Wilson Dam, Ala. and Columbia, Tenn.

—Widows Creek Steam Plant Branch.

United States Steel Corp., American Steel & Wire Division, Duluth (Minn.) Works.

—Cyclone Fence Department, Waukegan, Ill.

—Waukegan Works.

—Clairton (Pa.) Works.

—Consolidated Western Steel Division, Berkeley (Calif.) Plant.

—Orange (Texas) Plant.

—Vernon (Calif.) Plant.

—Edgar Thomson Works, Brad-dock, Pa.

—Homestead Steel Works, Munhall, Pa.

—Marine Way, Clairton, Pa.

—Michigan Limestone Division, Annandale Plant.

—National Tube Division, Christy Park Works, McKeesport, Pa.

—Gary Works.

—Lorain (Ohio) Works.

—Oliver Iron Mining Division, Monroe Open Pit Mine, Chisholm, Minn.

—Pittsburgh Steamship Division.

—Tennessee Coal & Iron Division, Short Creek Coal Mine.

—Vandergrift (Pa.) Plant.

Universal Atlas Cement Co., New York (Entire company).

—Fairborn, Ohio.

—Hannibal, Mo.

—Independence, Kans.

—Northampton, Pa.

The Upjohn Co., Kalamazoo, Mich. (Entire company).

Virginia Department of Highways, Richmond (Entire company).

Wagner Electric Corp., St. Louis, Mo. (Entire company).

Westinghouse Electric Corp., Chicago M & R Plant.

—Cleveland M & R Plant.

—Pittsburgh M & R Plant.

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Ash Grove Lime and Portland Cement Co., Louisville, Neb. Plant.

Brown & Bailey Co., Philadelphia (Entire company).

Canada Cement Co., Ltd., Belleville, Ontario, Canada.

—Havelock, New Brunswick.

—Pt. Colborne, Ontario.

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ica, Valley Forge Plant.  
Copolymer Corp., Butadiene  
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The Davison Chemical Corp.,  
Gretna, La. Unit.  
—Perry, Ia.  
—Savannah, Ga.  
Dewey Portland Cement Co.,  
Davenport, Ia.

Diamond Alkali Co., Standard  
Portland Cement Division, Paines-  
ville, Ohio.  
Dominion Tar & Chemical Co.,  
Ltd., Standard Chemical Co., Ltd.,  
Montreal, Quebec.  
E. I. du Pont de Nemours & Co.,  
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—Cleveland Parts Depot.  
—Dallas Parts Depot.  
—Denver Parts Depot.  
—Dundee (Mich.) Plant.  
—General Salvage, Dearborn,  
Mich.  
—Oklahoma City Parts Depot.  
—San Francisco Parts Depot,  
Richmond, Calif.  
—Tractor and Industrial Engine  
Division.  
—Traffic, Dearborn, Mich.  
—Virginia Parts Depot, Norfolk.  
Gaylord Container Corp., Tam-  
pa Unit.  
General Portland Cement Co.,  
Trinity Division, Fort Worth,  
Texas.  
Gladding, McBean & Co., Glen-  
dale China Plant.  
The Hankins Container Co.,  
Chicago Plant.  
Ideal Cement Co., Superior,  
Neb.  
—Union Division, Devil's Slide,  
Utah.  
Jahncke Service, Inc., General  
Offices, New Orleans.  
Keystone Portland Cement Co.,  
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—Mason City, Ia.  
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Lone Star Cement Corp., Bir-  
mingham (Ala.) Plant.  
—Dallas, Texas.  
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water) Maryneal, Texas.  
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—St. Stephens, Jackson, Ala.  
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Pittsburgh Coke & Chemical Co., Green Bag Cement Division, Pittsburgh (Neville Island).

Strathmore Paper Co., Woronoco Mill No. 1, West Springfield, Mass.

Southwestern Portland Cement Co., El Paso, Texas.

United States Rubber Co., Burlington (N. C.) Plant.

—Research & Development Department.

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—Fayal Open Pit Mine, Eveleth, Minn.

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—Phoenix (Ariz.) Plant.

—Research Laboratory, Duluth, Minn.

—Virginia (Minn.) Crushing Plant.

—Wood Works, McKeesport, Pa.

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Volunteer Portland Cement Co., Knoxville, Tenn.

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There's one advantage to being married: you can't make a fool of yourself without knowing it.

## Wire from Washington

—From page 46

scheduled for the public hearings, but the hearings were deferred.

Both the Senate and the House have passed H.R. 7125 (Miller), as amended, to regulate the residue of pesticide chemicals in or on raw agricultural commodities.

The Public Health Service, of the Department of Health, Education and Welfare, has announced

that it will step up sharply its study of industrial fumes and other impurities in the air. This is made possible by the increase of the appropriation for air pollution studies, from \$25,000 to \$175,000.

## Transportation

Both the House and Senate have approved H.R. 7468 (Bennett), as amended, to regulate motor carrier transportation between points in foreign countries, insofar as

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## BRADLEY Duo Washfountains

### The World's Most Sanitary Wash Fixtures

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such transportation takes place within the United States.

The Senate has completed its hearings on the trip-leasing bill, H.R. 3203 (Wolverton).

The Interstate Commerce Commission has issued a notice of proposed rule-making concerning the transportation, by rail or highway, of explosives and other dangerous articles. The Commission invited requests from persons wishing to be heard in this connection.

#### Government Operations

The Senate Committee on Appropriations, in its report on the appropriation for the Department of Commerce, stated:

The committee is much concerned with the high rate of accidents in certain bureaus of the Department. The Committee directs that . . . a qualified safety engineer be employed and that a safety program be instituted to reduce the accident rate.

The Post Office Department announced the opening of a nationwide Post Office traffic safety program, involving the setting up of 60-hour training programs in 26 cities. After such courses, the trainees are expected to help set up motor vehicle accident prevention programs.

#### Fire Safety

The House Committee on Agriculture has approved two bills which would give Congressional consent and approval for interstate forest fire protection compacts among various states. One bill was H.R. 9345 (Grant) which was approved and substituted for S. 2786 (Sparkman and 11 other Senators) previously approved by the Senate, to authorize the Southeastern State compact among 11 states; the other bill was H.R. 6393 (Colmer) for the five-state Southwestern compact.

**Freshly-graduated College Man:** "Do you have an opening for an intelligent, creative, aggressive, live wire who can do things for your business?"

**Business Man:** "Yes, we have such an opening—and don't slam it as you go out!"

## Motivation To Be Studied In Fertilizer Industry

**A** MOTIVATION study among workers in the nation's fertilizer plants will be made by the National Safety Council.

The Council's Fertilizer Section has obtained the services of Dr. Charles W. Nelson, director of research and planning for the University of Chicago's Industrial Relations Center, to direct the research project.

The purpose of the motivation study is to obtain actual field data on the learning processes, motivations and work habits of the average fertilizer worker. The study will enable the section to produce training aids that more effectively appeal to the workers individually and as a group, to help the industry improve its supervisory techniques and to utilize workers more effectively.

The research project has the support of the American Plant Food Council and the National Fertilizer Association. Paul T. Truitt, president of the council, and Dr. Russell Coleman, president of the association, have expressed the conviction that the study will be a contribution of vital importance to fertilizer management, since it will serve to point up specific needs of the industry for safety teaching and worker motivation.

In conducting the confidential survey, Dr. Nelson will interview fertilizer worker groups at selected plants during the rush season of 1955 when accidents are normally at a peak.

Management and supervision also will be consulted for observations on the safety problem.

Once the specialized problems of the fertilizer industry are known, the observer will make visits to other fertilizer plants to check observations. A preliminary report to be made to fertilizer management in the summer of 1955 will include a brief checklist of points to watch in hiring men.



*Dr. Charles W. Nelson*

"The checklist," said Dr. Nelson, "should help spot men who are most likely to be subject to accidents."

A final report will be made to the Fertilizer Section's annual October meeting.

The executive committee of the Fertilizer Section is now receiving funds for the project and is selecting plants in which the interviewing will take place. Contributions to the fund may be sent to the Fertilizer Study Fund, National Safety Council, 425 N. Michigan Ave., Chicago 11. Checks should be made payable to the National Safety Council. Inquiries should be addressed to T. J. Clarke, G L F Soilbuilding Service, Ithaca, N. Y., vice-chairman of the section, or to Stewart A. Washburn, sectional representative at the Council.

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# Air Safety Awards for 39 U.S. Air Lines

**T**HIRTY-NINE U. S. air lines have been named winners of the National Safety Council's aviation safety award for going through 1953 without a passenger or crew fatality in air accidents.

The annual award goes only to domestic, territorial and overseas carriers which fly scheduled pas-

senger runs.

The complete list of air carriers receiving the award, with the number of years of safe operation to end of 1953, follows:

Trunk Lines	Years of Safe Operation
Braniff Airways	14
Capital Airlines	4
Caribbean-Atlantic Airlines	11 *



Removes dirty suds and water from scrubbed floors...dries flooded areas.



Sweeps floors "with air." No cloud of dust...no sweeping compound needed.



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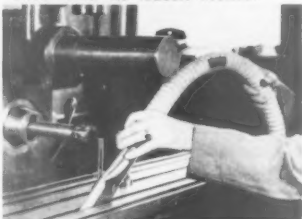
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Cleans overhead pipes...no ladders needed, no shower of dust.



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Cleans lathe beds and other crevices in machinery.

Colonial Airlines	23
Continental Air Lines	18
Mackey Air Transport	1 *
Northeast Airlines	20 *
Northwest Airlines	2
Pan American World Airways	1
Pan American-Grace Airways	10
Trans World Airlines	3
United Air Lines	2
Uraba, Medellin & Central Airways	13 *
<i>Territorial Lines</i>	
Alaska Airlines	2
Alaska Coastal Airlines	4
Byers Airways	3 *
Cordova Airlines	2
Ellis Air Lines	7 *
Hawaiian Airlines	24 *
Northern Consolidated Airlines	6 *
Pacific Northern Airlines	7 *
Reeve Aleutian Airways	5 *
Trans-Pacific Airlines	4 *
Wien Alaska Airlines	1
<i>Local Service Lines</i>	
Allegheny Airlines	4 *
Bonanza Air Lines	4 *
Central Airlines	4 *
Frontier Airlines	7 *
Lake Central Airlines	4 *
Mohawk Airlines	3
North Central Airlines	5 *
Ozark Air Lines	3 *
Piedmont Airlines	5 *
Pioneer Air Lines	8 *
Southern Airways	4 *
Southwest Airways	2
Trans-Texas Airways	6 *
West Coast Airlines	7 *
<i>Cruise Lines (Scheduled)</i>	
Resort Airlines	3 *

(\*) No fatal accident from date of air line establishment or first record.

The 1953 passenger death rate of .56 deaths per 100 million passenger-miles for domestic operations was second lowest in air line history, according to the Council. The best previous rate was .35 in 1952.

There were four fatal accidents in domestic operations during 1953, costing the lives of 101 persons—86 passengers and 15 crew members. In addition, international operations of U. S. flag carriers resulted in one other accident and two additional passenger deaths.

All Council awards were made on the basis of official records of the Civil Aeronautics Board, and total miles are those accumulated in scheduled passenger-carrying operations only.

Members of the Council's award advisory committee are Lt. Gen. James H. Doolittle and Harry F. Guggenheim.

Life is like a tennis game—the player who doesn't serve well usually loses.

# Six Railroads Win National Safety Awards

**SIX** Class I railroads, named group winners of the Railroad Employees' National Safety Award of the National Safety Council, had a 1953 employee casualty rate 55 per cent less than the average rate for all Class I railroads.

The combined rate of employees killed and injured per million man-hours worked was 3.18 for the six winners, as compared with a 1953 rate of 7.05 for all Class I railroads. (Class I railroads are those whose operating revenues exceed \$1,000,000 annually.)

The six Class I winners and their rates were:

*Great Northern Railway Co.* won first place among railroads whose employees worked 50,000,000 or more man-hours. Its total accident rate was 3.13 as compared with an average of 6.24 for all railroads in this group.

*Norfolk and Western Railway Co.* was winner in the 20,000,000 to 50,000,000 man-hours group. Its rate was 3.33 as compared with 6.36 for all railroads in the group.

*The Nashville, Chattanooga & St. Louis Railway* won first place in the 8,000,000 to 20,000,000 man-hours. Its rate was 3.12 and the group average was 7.93.

*The Colorado and Southern Railway Co.* was winner in the 3,000,000 to 8,000,000 man-hours group, with a rate of 3.05 as compared with a group average of 9.57.

*The Peoria and Eastern Railway Co.* was first in the 1,000,000 to 3,000,000 man-hours group. Its rate of 1.63 compares with a rate of 11.67 for all railroads in the group.

*Texas & Northern Railway Co.* won in the group whose employees worked less than 1,000,000 man-hours, with a rate of zero as compared with a group average of 10.98.

Among divisions of the *Pullman Co.*, the Central operating region had the best record. Among Pullman shop units the Wilmington, Del., shop was the winner.

Among switching and terminal railroads (those not engaged in line-haul operations), *The Ogden Union Railway & Depot Co.* was the winner in the group whose employees worked more than 1,500,000 man-hours. *Conemaugh & Black Lick R.R. Co.* (Johnstown, Pa.) had the best record among the roads working less than 1,500,000 man-hours.

Railroad employees killed on duty by accidents totaled 339 in 1953—the lowest number in the history of modern railroading.

A little circus was playing a village back in the hills. While the band was playing, one old-timer watched the trombone player furtively for a while, then turning to his son, he said: "Don't let on yore watchin' 'im. Thar's a trick to it—he ain't really swallerin' that thing."



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Next time you're buying, compare... we'll be glad to show you why thousands of painting contractors insist on "Gold Medal" ladders and scaffolds... because they're made better to last longer and cut costs. And remember, you get the *right* equipment for *any* job because we have *all* types—made better to save you money.

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for Catalog L-71

Long Island City 1, N. Y.



# Hydraulic Buffers For Bridge Trolleys

By W. H. LEHR

Two-foot stroke hydraulic buffer mounted on railway tracks for testing under simulated field conditions.

**I**NCREASING frequency and severity of accidents involving bridge and unloader man trolleys have emphasized the importance of installing adequate buffer mechanisms on the structures. Simple spring or friction type buffers often are designed to stop a trolley traveling at reduced speed, and are intended primarily to halt a trolley that already has been slowed by various limit switches. Placing full reliance on the brakes of a trolley also is hazardous because this method of deceleration requires friction between the wheels and the rails, which may not be possible if wet or icy conditions exist.

Inadequate buffer protection has resulted in severe physical damage to bridges and trolleys, with accompanying costs for repair and plant tie-up. Even more serious has been the injury to personnel.

Two sizes of hydraulic buffers for deceleration of trolleys on bridges and unloaders have been developed by Dravo Corp. The first installation of this type was made on a 15-ton ore bridge, designed and built for an eastern steel producer. The man trolley of this bridge weighs 151,000 pounds, exclusive of bucket and load, and its maximum speed is 900 feet per minute.

H. W. LEHR is Engineer, Crane and Bridge Department, Dravo Corporation, Pittsburgh, Pa.

Two buffer units are mounted on the bridge span, one at each end of the trolley runway. Each unit is designed for a maximum stroke of six feet and will stop the trolley in a distance slightly less than this amount if the trolley is traveling at full speed on impact. Thus, the trolley will be stopped, regardless of whether limit switch failures or weather conditions caused lack of deceleration at the end of the runway.

Each buffer unit on the bridge consists of two hydraulic cylinders

mounted parallel to the trolley runway and connected by a bumper beam extending across the runway to contact the trolley frame. Arrangement of beam and cylinders results in the action of the trolley on the buffer piston being a tension pull rather than a compression thrust. An automatic latching device resets the buffer after its work stroke has been completed.

Before it was shipped, the buffer unit was tested at Dravo's plant in Pittsburgh. The test set-up, simulating field conditions, was made for a single cylinder. The single cylinder was mounted and firmly secured to a railroad car, and another car was loaded to weigh approximately half as much as the trolley. The loaded car then was placed in motion and

—To page 82



Two six-foot-stroke hydraulic buffers mounted at end of cantilever arm of ore bridge. They are connected by crossbeam extending across runway. Action of trolley on buffer pistons is a tension pull rather than a compression thrust. Trolley frame automatically latches to buffer crossbeam and resets buffers when trolley travel is reversed after impact.



## Twenty-One Railroads Win Public Safety Awards

Twenty-one railroads recently received National Safety Council awards for public safety activities in a new award program whose purpose is to give recognition to railroads already carrying on such activities and to encourage the development of public safety programs by all railroads.

A committee of judges met June 2 and selected the following to receive the 1954 awards, based on entries covering 1953 activities:

Aliquippa and Southern Railroad Company.

The Atchison, Topeka and Santa Fe Railway System.

The Baltimore & Ohio Railroad Company.

Canadian National Railway Company.

Canadian Pacific Railway Company.

Chicago and Eastern Illinois Railroad.

Chicago and North Western Railway System.

The Delaware and Hudson Railroad Corporation.

The Denver and Rio Grande Western Railroad Company.

Elgin, Joliet and Eastern Railway Company.

Lehigh and New England Railroad Company.

The Monongahela Connecting Railroad Company.

New York Central System.

Reading Company.

St. Louis-San Francisco Railway Company.

Savannah and Atlanta Railway Company.

Seaboard Air Line Railroad Company.

Southern Pacific Company.

Southern Railway System.

Texas and Pacific Railroad Company.

Union Pacific Railroad Company.

The judges were: Ned H. Dearborn, president, National Safety Council, as chairman, and Mrs. Glenn W. Folkers, national secretary, Ladies' Auxiliary, National Rural Letter Carriers' Association; Otto Steffey, vice president, Illinois Agricultural Association; John G. Cherry, president, Cherry-Burrell Corporation, and Norman Damon, vice president, Automotive Safety Foundation.

"Hello, Jim! Haven't seen you for a long time. Did you marry that beautiful babe you used to go with, or are you still doing your own cooking?"

"Yep."

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1" x 36" strips, in individual  
sterile-sealed foil-envelopes.  
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other sizes:

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3" x 36" strips, 6 to carton

6" x 36" strips, 6 to carton

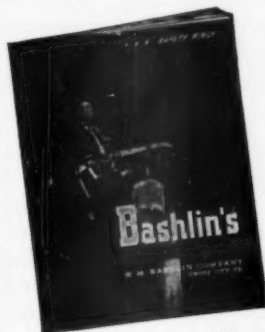
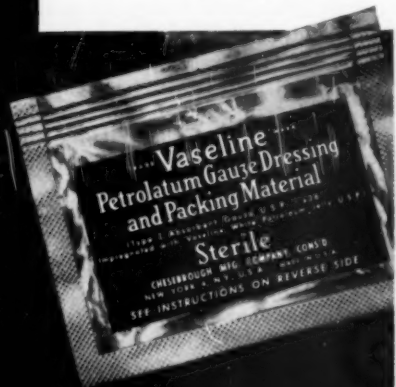
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to choose, and every one a champion.  
Write today!

**W. M. BASHLIN CO., Grove City 3, Pa.**

## Industrial Health

—From page 71

there were more than 6,000 eye injuries annually or almost one for every two employees. Injuries of all types were about 35,000 annually, so that eye injuries constituted 17 per cent of the total. Only a small proportion of these injuries were disabling.

Nine plants stated that they had experienced eye injuries involving lost time and three of these included the loss of an eye. The rate of total eye injuries was 234 per million man hours, as closely as could be estimated, which is not greatly different from the figure for one of the large plants checked for a comparison.

## Hydraulic Buffers

—From page 80

allowed to coast into the buffer at low and high speeds. In all cases the loaded car stopped smoothly and without recoil.

After being satisfied with the results of the plant testing, additional tests were run on the actual installations. The last of these tests consisted of running the trolley into the buffers at full speed with Dravo engineers aboard. The limit stops were made inoperable for the test so there would be no deceleration of the trolley.

In addition to providing adequate protection, the hydraulic type buffer requires but limited maintenance. The moving portions of the latching mechanism are mounted in self-lubricating bushings and the only attention the cylinder needs is a periodic check on the level of the hydraulic fluid.

In another installation for a midwest steel producer, space and weight considerations required a smaller and lighter buffer unit and a unit with two hydraulic push-type cylinders was designed. The buffer pistons are arranged for direct contact with the trolley frame and therefore require no bumper beam. The use of a piston-operating stroke of two feet makes

the entire unit lighter and more compact. Further simplification in the buffer system was made by providing a spring return for these pistons. This eliminates the latching mechanism.

Hydraulic arrangement of the two-foot stroke buffers is similar to that of the longer stroke units. Passage of the piston gradually covers the perforations in the sleeve, thus restricting flow of the hydraulic fluid. The forces involved obviously are increased with the shorter decelerating distance. Also the sleeve of this cylinder is integral with the housing, which is a steel casting.

The two buffer units described here were designed for use with similar trolleys traveling at similar speeds. However, it must be recognized that their action is different, as is also the weight and speed range in which each may be used. The six-foot stroke unit provides a gradual stop with moderate decelerating force while the stop by the shorter unit is more abrupt with greater force. The two-foot stroke unit therefore must be considered an emergency or "crash" buffer when the trolley is traveling at full speed upon impact. However, many material handling structures will be more adequately protected by the installation of either of the above buffer units.

## Safety Films

The August quarterly Supplement to the June, 1954 issue of the *National Directory of Safety Films* is available. This Supplement contains descriptions of several new safety films, plus corrections for the listings in the Directory. Single copies may be obtained free of charge from the National Safety Council.

The popular "Andy Meyers" series of safety films for professional drivers is no longer available from the National Association of Automotive Mutual Insurance Companies, but Ideal Pictures Corp., 58 East South Water Street, Chicago, has prints

for rental. Preview and purchase prints may be obtained from Vogue-Wright Studios, 237 East Ontario Street, Chicago 11.

To locate these films in the Directory, look for the individual titles, which are:

Caution at the Crossroads  
Danger in Reverse  
Too Close for Comfort  
Too Fast for Conditions  
Wrong Side-Suicide  
What Happened?  
Looking for Trouble  
Split-Second Survival  
Mind Your Manners  
Dark Daze

The following films are no longer being distributed by the National Safety Council!

The Safety Sleuth  
Eye Accidents  
Use and Care of Hand Tools

Series

Breath of Life  
The Operator and Safety  
The Truck and the Driver  
They Drive in Safety  
It's a Big Job  
The Chance to Lose  
Highway Mania  
Men at the Wheel  
Screwdrivers and Screwjays  
Traffic with the Devil  
X Marks the Spot  
Teach Them to Drive  
1-2-3-Go!  
You Bet Your Life  
Look, Listen and Live  
Miracle in Paradise Valley  
What Price Happiness?  
Safety in the Home  
A Stitch in Time  
The Seventh Column  
A Closed Book

Other sources for these films can be located by checking listings in the 1954 issue of the *National Directory of Safety Films*, or by writing directly to Nancy Blitzen, Film Consultant, National Safety Council.

The *National Directory of Safety Films* may be purchased from the Council. The price for a single copy is 75 cents.

Man is the only animal that can be skinned more than once.

## Obituary

—From page 62

that year, and had been reelected for four consecutive four-year terms.

Born in Cleveland County June 3, 1897, Mr. Shuford was educated at N. C. State College and Duke University. Following his service in the U. S. Navy during World War I, he worked in the textile industry for several years and later served as principal of schools in Ellenboro and Spindale. From 1926 to 1933 he served as Boy's Commissioner for the city of High Point. In 1933 he was appointed chief inspector in the North Carolina Department of Labor, in which post he was serving at the time of his appointment as Commissioner of Labor.

In addition to earning the approval of North Carolina's citizens as an administrator of the State's labor laws, Mr. Shuford had a vigorous and distinguished career in many public service organizations at State, national and international levels. He was a past president of the North Carolina Conference for Social Service, past president of the International Association of Governmental Labor Officials, and had served twice by Presidential appointment as advisor to the American Government delegates to the International Labor Conferences.

### HARVEY F. YOTTER

HARVEY F. YOTTER, insurance supervisor and safety engineer for General Crushed Stone Company, Easton, Pa., died June 10 at the Osteopathic Hospital, Philadelphia, where he had gone for observation.

Mr. Yotter was born at Bethlehem, Pa., March 6, 1888. He started with the company in 1909 as secretary and assumed charge of insurance and safety in 1928. He was a member of the Executive Committee of the Cement and Quarry Section, NSC; the Philadelphia Chapter, American Society of Safety Engineers, and the National Crushed Stone Accident Prevention Committee.

Surviving are his widow, Ethel, a son, a daughter, a grandchild, and a brother.

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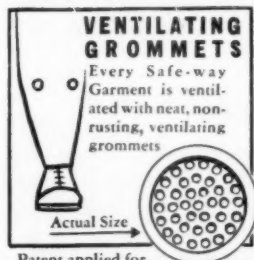
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## THE READERS' POINT OF VIEW



Comments on topics of current interest are invited. They need not agree with the editors' opinions.

### Experience with Accident Proneness

LAWRENCE, KANS. I want to thank Dr. Schulzinger for his article in the June NATIONAL SAFETY NEWS.

I keep a personal file on all of our employees who have accidents. The file is well filled with cards having a single notation, meaning that they have had but one accident, some lost-time and some not. Of the 1,900 employees there are not more than a hundred cards of men who have had four or more accidents. There are a very few having 10 or more.

I try to make it a point to talk with these men as I get around the property, and I am going to give you just one or two things which might have caused the "accident proneness."

There is one line foreman who has had 12 accidents, four of them lost time. For about two years his crew led all other crews on his division in the number of accidents on the part of the men on the crew. He had a rotten set of teeth. Eighteen months ago he had all his teeth out and new dentures put in. Since that time he has had no accidents himself, and only one man on his crew has had an accident, and that was a minor one.

There is another man, not a foreman, who was considered accident prone, who has had his teeth removed and new dentures in. In two years he has not had an accident.

Another man built up to an accident that put him in a hospital for eight days and off the job for

46. This was a climax of a series of less important accidents. He divorced his wife and went three years without an accident. Then he had three vehicle accidents, two with company vehicles and one with his own, very similar. In talking with him I found he was thinking of remarrying and was wondering about what his children would think. He is now married and is on the no-accident list.

My prize problem was a worker in a power plant who had 14 accidents in eight years, five of them lost time, three of them broken bones in the foot from dropping pipes or valves on them. He opposed safety shoes for himself and others. He was made a foreman and transferred to another plant. Accidents continued. He was elected chairman of the safety committee in the crew plant. He has not had an accident since 1951.

Yes, we have proneness to accidents, but they are not because of a man's birth but because of his environment inside or out and we should put in considerable time studying those environments. This is hard to sell to some executives.

W. C. BOARDMAN,  
Safety Director, The Kansas  
Power and Light Company

### Our Mistake

WASHINGTON, D. C.—Being a past master of the editorial faux pas, I'll bet dollars to doughnuts I can tell the exact chain of events whereby Assistant Secretary of the Navy James H. Smith, Jr., came to be captioned Rear Admiral George A. Holderness, Jr., on page 76 of the July issue.

We are certainly grateful for the publicity given the Navy. However, can you make a correction in your next issue?

JOHN H. HOWARD, Editor  
Safety Review, Office of  
Industrial Relations,  
Department of the Navy

Only a fellow editor can realize how these embarrassing slips can occur. Our sincere apologies to the Navy—Ed.

## COMING EVENTS



In the Field of Safety

### Sept. 14-16, Cleveland, Ohio

Sixteenth Annual Ohio State Safety Conference and Exhibit (Hotel Carter). Carl L. Smith, executive secretary, 2073 East Ninth St., Cleveland 15, Ohio.

### Sept. 15-16, Hartford, Conn.

American Gas Association, Sixth Annual Accident Prevention Conference (Bond Hotel). James M. Beall, director, Public Information Bureau, American Gas Association, 420 Lexington Ave., New York 20.

### Sept. 16-17, York Harbor, Me.

Twenty-Seventh Annual Maine State Safety Conference (Marshall House). A. F. Minchin, secretary, Maine State Safety Conference, Department of Labor and Industry, Augusta, Maine.

### Oct. 5-7, Louisville, Ky.

Greater Louisville Safety Conference and Exhibit (Kentucky Hotel). Estel Hack, executive vice president, Speed Bldg., Louisville 2, Ky.

### Oct. 18-22, Chicago

42nd National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

### Nov. 18-19, Portland, Ore.

Sixth Annual Governor's Industrial Safety Conference (Masonic Temple). Leonard A. Weston, director, Accident Prevention Division, State Industrial Accident Commission, Public Service Building, Salem, Oregon.

### Nov. 18-19, Spartanburg, S. C.

Seventeenth Annual South Carolina Statewide Accident Prevention Conference (Spartanburg Memorial Auditorium and Wofford College). J. D. Watson, Jr., safety engineer, South Carolina Industrial Commission, Columbia, S. C.

### March 29-31, Pittsburgh, Pa.

Thirtieth Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Hotel William Penn). Harry H. Brainerd, executive manager, 605 Park Bldg., Pittsburgh 22, Pa.



## Controlled Conditions

—From page 35

which has been equipped with snow-melting coils serves as both a receiving and shipping point, so that responsibility for incoming materials and outgoing merchandise is vested in one man. The plant offices occupy a separate structure 140 x 40 feet which extends across the front of the site and is connected with the manufacturing building by a 40-foot wide structure housing the first aid department, office lavatories and a special equipment room where ventilating and future air conditioning machinery for the office has been provided for.

A 40-foot wall of aluminum sash admits a flood of daylight into the office building where a full range of Sheaffer products is on display in cases which contrast with colorful draperies and rich walnut paneling. Executive offices are reached by a separate corridor paralleling the lobby and the general office extends across the remainder of the structure.

## Plant Enemy No. 1

—From page 33

possible to check the CO precisely within ten seconds, and despite the presence of smoke, fumes or other gases in the air.

When boilers are cleaned at the Exide Crescentville plant, maintenance men wear dust hoods with shatterproof eye lenses which protect head and shoulders from dusts and flying scale. Incorporated in them are respirators, so that the wearer is assured of both clean air and clear vision.

Industrial trucks used for transporting materials and pallet loads of batteries are painted in bright orange-and-black stripes so that pedestrian workers and other truck drivers cannot fail to see them approaching.

Jobs throughout the lead departments—in other words, in most of the Exide plant—are classified in two ways, according to whether they involve working at fixed stations or not. And an elaborate atmosphere-checking

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program goes on continuously. At fixed work stations, air samples are drawn into an electrostatic sampler for analysis in the laboratory of the concentration of lead dusts. A portable instrument called the midget impinger is used similarly for collecting air samples on jobs in which the Exide employees move around.

Over and above all this array of precautionary procedure and equipment is a medical research and investigation program believed to be uncommon in lead-using industries. Under the supervision of Dr. Francis B. Lanahan, consulting medical director, Dr. G. B. Meyers, medical supervisor of the Philadelphia Plants, and William Pallies, supervisor of Industrial Hygiene Laboratory, for Exide's Philadelphia plants, the staff of the Industrial Hygiene Laboratory uses the most modern equipment available in its two big tasks: (1) keeping close watch on every employee's health as it may be affected by lead; (2) searching for new information that will aid in more quickly detecting sources of lead trouble in the plant, and evidences of lead absorption by individual employees.

The man on the job, say these experts, may well be regarded as his own best "electrostatic precipitator." Each month, a urine sample from every lead worker is analyzed for lead excretion—which is directly related to his lead absorption. The mean lead excretion, if high, is an obvious indication that safety practices and equipment throughout the plant or throughout a department must be rechecked immediately because it points to unusual lead absorption by the group. "If the group mean climbs," explains Mr. Riley, "it means we must suspect the environment in which the group is working." Thus urinalysis provides a barometer for holding lead absorption within a minimum range.

Not satisfied with this, the Exide medical people go still further: Complete blood counts, and precise measurement of lead in the blood stream—also are part of the story, but they insist not all by any means. And they are looking still more deeply into the total

problem. They are carrying on a long-range study revolving around the importance of the porphyrins in the urine. These mysterious little factors are a result of tissue breakdown in the body, normally not found in the urine in any but the minutest "trace" amounts. Question: Does their presence provide an advance tip-off—and a more simplified procedure than quantitative measurement of lead in the urine, or lead in the blood, or blood count, as a warning—of lead absorption?

If the porphyrins tell more promptly of danger which may indicate significant tissue change, these Exide researchers are on the trail of an important contribution in the constant contest to keep lead as a versatile, useful servant of man, without paying the wages of impaired health for the lead worker. "Certainly," says Dr. Lanahan, "all of this costs real money as any quality product must. But, quality medical care can be available even to small groups of workers. Their employers need but pool their common problems and spread the costs over a large working population. Centralized industrial facilities await only the awakening of management initiative to spread medical care to *all* lead workers."

Exide policy apparently is firm on one score particularly—any safety measure, to be successful, must have the wholehearted co-operation and support of both management and labor. Mr. Riley and his associates say that the safety program as a whole could not be so effective if it were not for the active participation of the union—Local No. 113, I.U.E. (C.I.O.) The union's officers and membership share fully in credit for making the Crescentville plant a "good, safe place to work."

## Accident Costs

—From page 21

assume that an accident has only one cause. We must constantly ask ourselves, "Have I thought of the other, less apparent causes?"

## D. Accidents Are Painful

You bet they are—and the distress isn't limited to the physical pain suffered by the fellow who

gets hurt, either. It takes many forms. Here are a few:

1. In many states the worker with a lost-time injury gets no pay for the first week after the injury. The very time when he needs the pay to bolster his morale.

2. He and his family suffer mental anguish when they realize they can't have the things they normally do. Just listen to the conversation when the family visits the injured worker in the hospital—that will give you many good ideas to pass on to your workers.

3. The injured worker finds the realization that he can't go back to his old job really distressing. Try telling that to your injured punch press operator—you'll get the idea, but good.

4. They cause "grief" in the Maintenance Department.

5. They cause loss to those whose pay varies with departmental production.

6. They cause losses to the company in many ways, such as higher insurance costs, or when an expensive machine is shut down for some time.

#### E. They Are Unnecessary

Some fair day when we have learned how to give accident costs their rightful place in our accounting procedures, management will have a much keener realization that almost all accidents can be avoided. For numerous examples of the possibilities, just look at the pamphlet *Accident Facts* published annually by the National Safety Council. It is a gold mine of supporting data. Or look up your own industry figures in the reports of the Labor Department of your own state and those of the U. S. Bureau of Labor Statistics. All of these and many other reliable sources are full of success stories of what can be done in this field. The downward trends certainly are proof that accidents aren't really necessary or inevitable.

For those who would rather get their proof close at home, here is a down-to-earth idea. Pick out a job with some tough hazards in it. Then list all the operational steps down the left side of your paper, being sure to get every step or detail in proper order. Then go through the job again looking carefully for all the hazards, list them and what you've done about each one up to now on the right side of your sheet. Then dedicate an hour to heavy thinking about

how you could eliminate or offset one or more of the hazards, put the paper in your pocket so that when a new thought comes to mind you can immediately put it down where you can find it later. If you'll really do this and keep at it you'll find "pay dirt" too.

Of course, if the details get too technical or into unfamiliar areas, you will be wise to put your personal pride in your back pocket where you can sit on it and get some expert assistance.

Such a safari into the accident-cost reduction country will be big game in itself, because of the personal satisfaction.

Accidents and accident costs are of course many more things than we have set down here, but at least we have indicated some things that you can do to better your own situation.

Closing with this note of hopefulness, here is one more tool which may be helpful. Your own list of accident costs will be more valuable to you than one that could be prepared by somebody else. Here is a skeleton on which to build your own list. It is just a list of major factors:

1. Costs involving the injured worker. (Don't forget the insurance costs.)
2. Costs involving uninjured workers.
3. Losses in production.
4. Costs of maintenance, repair, replacement of damaged equipment, tools, dies, etc.
5. Cost of damaged materials.
6. Administrative costs.

#### Headline That Isn't Printed

—From page 56

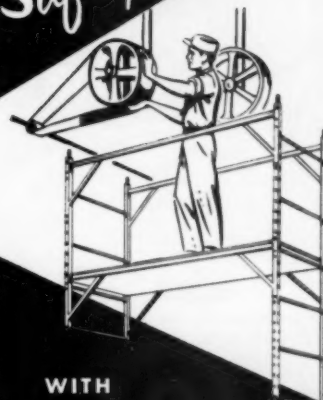
every time this results in exaggerating the incident out of all proportion to its proper size. The surest way to get the story you don't want is to make it difficult for the reporter to get the facts.

Reporters should be given the facts about an accident or fire just as soon as possible. Often this is not a situation in which the operating men can call back to the front office, or 'phone the public relations department to handle it. At that very moment reporters may be at the plant gates.

Here is an example cited by Mr. Knowlton. We all know that

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burning even a barrel of oil creates a smoke that magnifies out of all proportion the seriousness of the fire. Some years ago a refinery storage tank in the flats section of Cleveland caught fire. The column of smoke towered several thousands of feet into the sky to attract the attention of people for miles. Newspapermen arrived at the gate only to be barred by an over-zealous company official.

Before the situation was corrected, a wire story, based on an uninformed reporter's observations, went out and that night a well-known commentator broadcast a report that all downtown Cleveland was being evacuated before a refinery exploded. Obviously, this could have been easily avoided by giving the reporter the facts immediately and showing him that the fire looked worse than it was and that it was under control.

But even aside from the disaster type of accident, there remains the necessity of keeping up a good safety record or of improving a bad one. A safe place to work is a good place to work. And a good place to work has no difficulty building favorable community, customer, and employee opinion. A good place to work is the firm's major requirement of an effective public relations program.

We have now seen how the public relations function must act to minimize or nullify the effect of a major accident. In this instance it acts like a fire department putting out the fires of ill will created by disaster. However, it is far better to eliminate the cause of the fire before it starts, and direct our energies to promoting good will, rather than nullifying the effects of unnecessary ill will.

A company that spends time and money on promoting a safety program within the plant—on hunting out and eliminating all possible hazards that might injure or take the life of one of its employees, is one that will command the respect of those employees. We all know that healthy and happy employees who have a good and safe place in which to work—and who have a part in making and

keeping their field of operations safe—are the most welcome adjunct to any industrial relations program. These employees can, and should, be taught safety principles in every way practicable.

Where does the concern of management with the safety problem end? Is it just on the job? Or should management extend its interests to off-the-job functions of its employees, its customers, and its community friends?

In view of the reports from states and cities which show that more than two-thirds of the American workers killed die as the result of off-the-job accidents, it seems that management may well extend its field of "safety public relations" beyond the confines of its business establishment. These reports, compiled annually by the National Safety Council, show that three out of every five workers who are killed off-the-job die in automobile accidents.

What can we do about it?

In many industrial communities there is an existing community safety organization whose purpose is to keep the public aware of accident problems, of existing hazards, and of the need and responsibility for consideration and understanding of traffic laws and the work of enforcement officials. Where these community organizations exist, industrial management may well take a direct interest and participate in every way practicable. The employees, their families, their friends, and the company's customers and friends, live in that community. Their welfare and their respect, so highly considered in any in-plant program and planning, cannot be neglected once they pass beyond your gates. If it is, an important part of the over-all public relations program will be lost.

Safety is a community responsibility. It also is an individual responsibility. Continued accidents in any field—the home, public places, traffic—or in the industrial community, are bound to hurt the industries of that community. How? Simply because they hurt the employees, their families, their friends—closest allies in the day by day effort to improve or maintain good public relations.



Accidents in the industrial community mean loss of time by employees; they may curb employee efficiency if another member of the family is the victim; and may seriously affect the economic status—and, consequently, the emotional outlook of key personnel over a period of years.

Last year more than half of the people killed by accidents in this country were workers. Off-the-job accidents claimed 34,500 of these lives and 15,000 others died as the result of accidents at their places of work. The total, nearly 50,000 persons, represents a sizable community. But, even more than that, it represents a sizable and tragic loss to the industry of this nation. In addition, another 41½ million workers were injured in both on and off-the-job accidents.

The cost of replacing and training new men and women to take the place of these accident victims is approximately 3 billion dollars annually. This cost, of necessity, is reflected into every channel of American life. One of the most unfortunate aspects this loss presents is the fact that it occurs year in and year out. The figures vary, sometimes five or seven per cent from the previous year, but accidents continue to grind out the lives of thousands of valuable American workers.

Home, long considered the haven of peace and safety, is really the top killer. Here the aged and infirm, the infants and small children, the careless wife, or the procrastinating husband, pay the cost of neglect and oversight.

If our safety programs are truly worthwhile, our employees should carry the basic principle of safety home with them and become not only ambassadors of goodwill from the company, but ambassadors of safety as well.

Management should encourage employees, in every way practicable, to participate in off-the-job safety activities, to recognize their responsibilities for observing traffic laws and the principles of safe driving and vehicle maintenance.

It is extremely important to make every one of our employees feel that he plays an important part in the long range safety pro-

gram, that his interest, as well as that of the company, is identified with it.

We should not minimize, in any particular, the importance of the safety engineer. His is the important job of furnishing the representatives of management with the technical know-how, the various methods by which a sound safety program may be developed. The safety engineer is the man who issues the tools to do the job and shows us how to use them.

The safety record of a company will show how well its men have been trained and how well the safety engineer has trained the supervisors, the foremen, and other representatives of management. The Safety Department needs, and should receive, the active interest, support, and cooperation of top management. That department is a vital factor in our present-day concept of public relations as management's responsibility to best serve the interest of the public, the employees, and customers. Everything practicable should be done to make the oil industry's safety activities known to the public.

The industry's safety record, when we consider the hazards involved and the types of materials handled, is truly a remarkable achievement. Certainly that safety record should merit as much public recognition as the industry's accomplishments in other fields. A company which has the reputation of being a safe place to work has accomplished a great deal in establishing good public relations.

The methods by which we may promote safety are many. A few ideas have been suggested here by which we may promote safety through public relations and at the same time improve our public relations through safety.

In the final analysis, the real purpose of all accident prevention effort is to help people help themselves. When we have helped our employees to work at their jobs more safely, to drive on our highways with greater safety, to be safety-conscious in their communities and in their homes, then we have taken a giant stride in building and holding public confidence.



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## SAFETY FIRST SUPPLY COMPANY

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# Low-Down on Noise

(From page 23)

of the string lie limply on the floor, holding the other in his hand, a short vigorous shake of the hand will produce a wave which will travel down the string and disappear. If, however, the loose end is tied to some rigid object, the string pulled to the proper degree of tautness, and the process repeated, a standing wave will be visible to any one viewing the string broadside.

If any of you have available a steady noise source, such as a running engine, you may have noticed areas in the vicinity where the noise is louder than in other places. This is produced by standing waves, from reflection by buildings, walls, or other structures.

Quite remarkable variations in sound intensity can be produced by standing waves, and the phenomenon may be quite troublesome in noise control.

## Sound Frequency

As mentioned previously, the velocity of sound is related to and determined by the medium of propagation. For practical purposes, we can consider the speed of sound in air as 1,000 FPS. That speed has become quite commonplace. If an approximation of wave length can be made—as for instance, pacing off the distance between antinodal points of standing waves—the frequency can be determined fairly accurately by dividing the velocity by twice the half wave length.

When an object—a tightly stretched wire, building, length of pipe, a pole or practically anything is excited at its natural mechanical period of vibration, we have the phenomenon of resonance. A piano string mechanically struck, vibrates at its resonant frequency and transmits that frequency to the air around it, setting up sound waves of a certain pitch. Resonance occurs quite frequently in connection with industrial noise

problems and serves to increase the amount of noise in a certain place and may cause trouble from the mechanical vibration standpoint. At least one large bridge was destroyed out west by vibration set up by wind that far exceeded the calculated design stresses.

When talking about sound frequencies, the term octave or octave band is often used. One octave above a certain reference frequency is twice that frequency. Three octaves is 4 times the frequency and so on. One of the instruments used in noise studies is called an octave band analyser and incorporates filters which present the noise intensities in a predetermined octave band, excluding or attenuating frequencies falling outside of the band.

Noise is a random collection of many tones in varying degrees of loudness and consisting of distorted wave forms. Perhaps the simplest and most familiar form of a distorted or asymmetrical wave form is the saw tooth wave.

Noise, while it follows the basic patterns of wave phenomena, has some idiosyncrasies of its own. The Hi-fi addict is familiar with the use of corners to bring out

low frequencies, and low noise frequencies also congregate in corners.

Noise does not cast sharply delineated shadows in the fashion of light. Frequently, a moderately large structure will fail to cast a "noise shadow" in excess of one or two decibels, because of diffraction of the sound around the building.

Noise outdoors may behave in different ways under different atmospheric conditions. Low frequencies may travel considerable distances, and in certain spots be louder than in an area closer to the source. We are all familiar with the wailing siren of the fire truck as it approaches and then recedes. The noise level seldom rises and falls as a straight line function of the distance, but rather has hills and valleys in the curve.

## Measuring Intensity

The term used in discussion of noise intensity is the decibel which actually expresses a ratio or relationship between two sound pressure levels. It is 10 times the logarithm (to the base 10) of the ratio of the power levels. In sound work, zero db. is taken as the threshold of hearing. This sound pressure level is standardized at 2 ten thousandths dynes per square centimeter, at 1,000 cycles per second. The threshold of

## Mechanized Mop

Cutting tunnel cleaning time at the new Broadway Tunnel, San Francisco, from 128 to 4 man-hours has been accomplished by a 4000 pound gasoline fork truck equipped with a special washer attachment. Manufactured by The Yale & Towne Manufacturing Company, Philadelphia, the fork truck has fluid coupling which eliminates excessive clutch use and provides smooth acceleration.

The truck in operation is one of a fleet of nine gas trucks operated by Systems Lift Truck Service of Oakland who contract for the tunnel washing operation.



hearing varies, of course, from individual to individual, but this reference level gives a convenient base on which to work.

A sound-level meter is a device for the measurement of sound or noise intensities. The sound is picked up by means of an omnidirectional microphone with a wide range, flat frequency response curve. The electrical impulses so created are fed through amplifiers and various filters into an amplifier which drives the meter. The meter is usually calibrated in a logarithmic curve in decibels above the threshold of hearing. A single meter is not large enough to have a complete scale from 0 to 150 or so db., so provision is made along the line in the amplifier circuits to place its response in bands of 20 or so db. A dial on the instrument indicates which range is in use.

The output of a sound-level meter can be used in other ways, such as permanent recording on a tape or visually on a graphic recording, for future reference. If frequency analysis is desirable, an octave band analyser or some other calibrated set of band pass filters can be inserted in the circuit so that readings can be made at specific frequencies or ranges of frequencies.

For more exact analysis of instantaneous peaks which will not show on a meter or tape because of movement inertia, the picture can be presented on a cathode ray oscilloscope which is not bothered by mechanical inertia. The oscilloscope may also be used for exact frequency measurement by using it to compare the sound in question with one of a known frequency.

The third presentation is one of the most interesting. By causing the cathode ray to sweep or scan across a range of frequencies, the whole picture, frequency vs magnitude is obtained. By means of calibration markers on the tube face, high level peaks can be spotted and their frequency instantly read.

These instruments are expensive and not entirely necessary for spot checks of industrial noise problems. A great deal of data can be

—To next page

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WRITE FOR  
BULLETIN NO. 61



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# INDUSTRIAL GLOVES COMPANY

A CORPORATION

1705 Garfield Street, Danville, Illinois • (In Canada: SAFETY SUPPLY CO., Toronto)

# Low-Down on Noise

(From page 91)

gathered from the use of a simple sound level meter if properly and competently used. The ASA weighted scales usually found in such meters are useless in our application. Instead of these weighted scales, 3 or 4 band pass filters so arranged as to give instantaneous frequency approximations would be more appropriate.

The immediate concern of the safety engineer is the determination of whether or not a hazardous condition exists. This determination is based on a number of factors. Sound intensity in the work area is the first to be considered. But this is modified by frequency and exposure time.

## Two Types of Noise

Industrial noise falls into two general categories. Direct noise, that emanating from a spot close to the individual, and ambient noise which is picked up from its myriad sources and tossed back and forth within the confines of the room or building.

When dealing with direct noise, usually only one person is involved, or perhaps more than one depending on the proximity of individual operations to one another. In measuring and assessing the hazard from a direct noise, originating for example, from an impact or air wrench which an employee may be using, it is important to make the measurements in the general area of the exposure. Two readings should be made, one with the wrench in operation, and the other of the ambient noise with the operation quiet.

An estimate of frequency range should also be included, and ideally a complete picture of the frequency distribution is desirable. A complete report may point the way to an easier solution to the problem, if one exists.

Ambient noise presents a different problem. It may be originating from direct sources within

the work enclosure itself or may be coming in from an external source. A good example of this latter situation is in a test cell control room.

On one side of the wall is an engine undergoing test. The exhaust blast and prop wash can create extremely high sound pressure levels. On the other side, at the control console are two or three men. If the preliminary readings show a high level in the control room, a complete study must be undertaken. Frequency in such a situation is relatively unimportant, as there is no way of attacking the source. Every crack or opening around hydraulic lines, pipes, door frames, etc., then becomes a direct noise source, and all must be found and recorded in order to achieve a reduction in the over all noise level.

Each instance of high noise

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

**Noise is the most impertinent of all forms of interruption. It is not only an interruption, but also a disruption of thought.**

—Arthur Schopenhauer

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

level must be analyzed on its own merits. Readings should be taken throughout the entire area and recorded, if possible, on a plan of the building or area. Room contours, partitions, ceiling heights, or outdoor land contours, vegetation or buildings may absorb, reflect or apparently amplify or concentrate sound with the creation of standing waves so that levels may vary quite rapidly within a few feet. The entire situation must be presented graphically or pictorially before abatement procedures can be put into effect.

Fixed sound pressure levels for application in industry are impossible to establish. The equation for hearing damage—*Time x Frequency x SPL x Man*—contains too many variables. Indi-

vidual variation alone is enough to make regulations well nigh impossible.

*Length of time* an individual is exposed is, in most cases, hard to estimate. Many troublesome operations are intermittent, such as use of an impact wrench. In general, the human nervous system possesses remarkable recuperative powers and will snap back rapidly following severe insult, providing the duration is short.

*Frequency*, the second variable, is a function of the anatomy and physiology of the ear. In the case of the very low frequencies, the ear does not respond enough to produce damage. Of course, a single pressure wave of very great magnitude could rupture the drum. This would be fortunate since no nerve deafness would occur and drums can heal.

At higher frequencies, the whole auditory mechanism from the drum through the inner ear and the VIIIth nerve responds and can suffer fatigue and damage. At the very high frequencies, the response falls off.

*Sound pressure level* itself is closely tied in with frequencies. Most industrial noise, unfortunately, falls in the range where the ear is most sensitive to damage. Only rarely do we encounter very high levels at extremely high ranges.

*Man*, the fourth variable, is one of the most troublesome. Theoretically, it is possible to measure individual susceptibility, but to do such a job thoroughly throughout industry would make the mythological tasks of Hercules pale by comparison.

## Pre-employment Exams

Audiometric pre-employment examination is, in my estimation, of dubious value. It may have a negative sort of worth, however. If an employee claimed hearing loss, and an audiogram taken five or ten years prior showed virtually the same curve as the present one, there obviously could be no claim. If, however, there was a definite dip in the curve, that old



audiogram would certainly convict the employer.

In this regard, another question poses itself. What happens to the man who has hearing impairment when he seeks employment? If each prospective employer had a program of pre-employment audiometric testing, might this man be rejected? Certainly the individual showing some degree of hearing loss is a poor employment risk and will probably suffer aggravation upon further exposure.

This subject is controversial, and experience will ultimately point the way.

There is no ready answer to the question of how much attenuation is necessary. However, I believe that if a reduction is obtained, putting the noise level in the middle 80's at the loudest points, you will be on the safe side.

While we may set a goal for in-plant noise, neighborhood noise is a horse of very different color. Irate citizens standing firmly on their "rights" have been known to bring cases into court where the offending sound was below the average ambient level in the neighborhood.

Obviously, noise ordinances are out of the question. Narrow-minded, maladjusted individuals may try to push haphazard noise laws through a city council. If such laws became fact, they would be unenforceable.

Usually, tact, common sense and understanding, will go farther in nuisance cases than a whole lab-



"That company has a great safety record."

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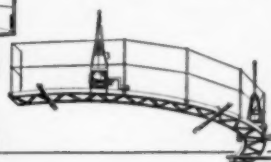


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oratory full of sound analysis. You cannot prove to someone that a noise does not annoy him, so why try? Common sense tells us that 90 db. in Mrs. Kelly's kitchen is unreasonable. But on the other hand, to expect a busy manufacturing operation not to raise the ambient daytime level a few db. is just as unreasonable.

If you are called upon to present a noise survey, do not present set figures—such as 96.5 db. here and 87.3 db. there. The noise source is not that stable, even though your instruments may be that accurate. Present the figures as a mean between two limits, or specify maxima and minima under the conditions.

## Safety Teachers

—From page 40

I will simply preach the Golden Rule to the men and give them gold stars for each good deed. Then I will evaluate the results of the two methods and decide which method to use thereafter."

Instead, the safety man knows beforehand that he must use both approaches (and engineering as well), so he goes ahead and uses them. He is more concerned with doing his job—and with keeping his job—than he is concerned with accumulating separate evidence for evaluating particular partial techniques.

It is true that some safety men, by natural inclination, do emphasize one psychological approach more than the other. But neither approach has been tried in its pure form. Rules, for example are seldom laid down without some justification; and the justification is necessarily in terms of the benefits to be gained by following the rule. Likewise, abstract appeals for good conduct are seldom made. Normally, they are tied in with statements of what is *good* and what is *bad*: "This is approved practice; this is not. Do this; do not do this."

Moreover, suppose that you do lean more heavily to enforcement of rules in your plant and I depend more heavily on appeals to better natures in mine. One of us will inevitably have a better record than the other. But who can say which record will be the better

one or that the difference can be explained solely by the difference in psychological approach? Who can say that we could not both have better records by using both techniques in better-balanced combination?

To answer the inquiry in a way that would be helpful, it was necessary to do more than explain the lack of quantitative information and the reason for this lack. It was also necessary to take issue with the inquirer's professed conviction that the only hope for industrial safety lay in creating in the workers a burning and conscious desire to work safely.

In the first place, "safety" is a relative term. We have industrial safety now—but we want more of it. In the second place, "only" is an absolute term. Stimulation of enthusiasm for safety is *one* means of getting greater safety. It is very important. There should be more of it. But it is not the *only* means of promoting safety (Don't forget engineering!), or even the only means of motivating the worker to work without human error. For example:

It is possible to stimulate in a worker a strong abhorrence for losing his toes and a strong enthusiasm for keeping them, together with an enthusiasm for the general aims of the company's safety program. Most of us are so motivated, even without the assistance of professional motivators. But we are also so brilliant that we can compare probabilities in our heads—even subconsciously. On one hand, we weigh the serious loss of toes against the seemingly slight probability of its occurrence. On the other hand, we consider the absolute certainty that safety shoes will involve a slight cost, or inconvenience, or discomfort, or something else that we don't like.

We then come up with the wrong answer, and we go into the quarry with our toes unprotected. Our *intentions* were good, but our *judgment* was not. An incalculable aid to our judgment would have been a rule saying, "Safety shoes are necessary to this job—either wear them or get another job." Pointed little messages like this are a great aid to making up our

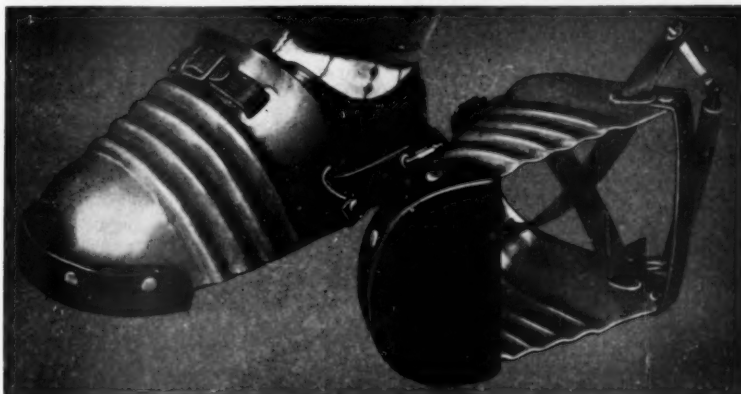
well-intentioned minds when we are in doubt as to what course of action we should follow. Even if such a rule is not enforced it does provide for the person who is eager to do the right thing an authoritative statement of what is the right thing.

In the absence of such a rule, even the safety-minded worker might not have sufficient awareness of the toe hazards. A smoker who doesn't want to smoke in the presence of vapors which might explode, or in the presence of flammable materials, will appreciate management's marking of the "No Smoking" areas. He will not insist upon a purely informative sign saying, "Explosive vapors here at times," even though "No Smoking" does sound very much like a rule.

The foregoing examples are not intended to support the opposite argument—namely, that firmly enforced rules are "the only hope." Equally important is positive motivation of the worker by demonstrating the advantages of toes, of uninterrupted income, of a reputation for cooperation with safety measures, of a good efficiency rating, wage increases, etc. Even a good rule cannot be well enforced unless the benefits of it are seen clearly by the people who are expected to comply. Many people, even in the face of threats or punishment, will ignore the "No Smoking" rule. They will ignore traffic rules, unless they are positive that a policeman is watching. They will ignore rules and pleas concerning safety shoes as though the shoes were a badge of stupidity. The situation can be such that the only way to get 100 per cent compliance is to fire the chronic violator. This becomes inadvisable when help is hard to get, and especially if the non-compliers are in the majority. In such a case, threats of punishment have little effect, but incentive methods may save the day.

During the war, it took large amounts of cajolery, flattery and personal attention to get women to wear caps, snoods and other de-glamorizing protective clothing. Some of them complied when the rule was announced, or would have complied if only everyone

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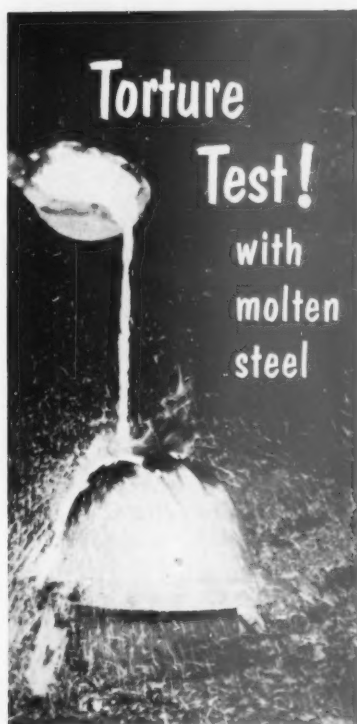
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else had done so. Others complied when the rule and its related hazard were explained. Others complied when given individual attention, or after personally witnessing a scalping. After compliance was virtually complete, the recalcitrant few had to be forced, wished off on some other employer, or sent back to the kitchen.

The war period provides many good examples. It was a period in which jobs were more plentiful than people and loss of employment was a feeble threat indeed. Both men and women took advantage of the situation to display their supposed independence of safety requirements.

Even though not developed to perfection in every employee, a truly wholesome attitude can to some extent lessen the need for specific formulation of rules. But intelligent enforcement of good rules (as opposed to stubborn or half-hearted enforcement) also has much to offer that we have not yet gained from it.

In fact, the two approaches are never to be viewed as options—as an “either-or” choice. And, when used together, they are not two distinct methods which supplement each other. Each is a part of the other, and the two of them combined constitute “human engineering.” The good attitude gives effect to the rule, and the rule gives substance and direction to the good attitude. The complier expects the violator to be made answerable for his “sins.” The violator deserves to be shown the benefits of compliance and deserves recognition when he becomes a complier. There is no conflict of the two approaches in practice.

People, like objects, can be either pushed or pulled. This does not mean that some of us have to insist on pushing everything that is moved and others of us must claim that “Pulling is the only hope.” Both methods can be used wherever desirable. One may be less appropriate than the other for some cases. You can’t pull with a battering ram; you can’t push with a string. Why insist on trying? Use whatever will work best.

But that isn’t as easy as it sounds. Determining exactly what *will* best influence the worker, broadly considered, is the entire problem of personnel supervision. All we are saying here is that the best answer for any case will not entirely exclude either enforcement of rules or the incentive approach.

Finally, in our discussion of motivation, we must never lose sight of the fact that all workers have a right to expect the elimination of as many physical hazards as possible from the plant and from the process—and achievement of maximum attainable safety requires it. Positive knowledge that management is sincerely trying to eliminate injuries is, in fact, a big help in giving more meaning both to incentives and to threats. Incentives or threats mean little to the worker if management’s own safety efforts indicate that it has no safety incentive of its own, follows no rules of its own, and is actually unwilling to put its money where its mouth is.



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# WHAT'S NEW

IN

NATIONAL SAFETY COUNCIL SERVICES \*

## Operation Safety

A new item for off-the-job safety programs has been added to the Operation Safety line. This is an 8½" x 11" (A size) traffic safety poster directed to motorists.

Posters in the new size will be reproductions of the 25" x 38" (C size) posters which are issued monthly on Operation Safety themes. The larger posters are suitable for erection at plant and office parking lots or at any outdoor site. They can also be used indoors where large expanses of wall or other display areas are available.

The A size is convenient for posting on plant and office bulletin boards. In fact, it is being made available because many firms who wished to use C posters on bulletin boards found them a bit too large for this purpose. The first A size traffic poster is on Operation Safety's October theme, Night Traffic Hazards.

B size traffic posters, which are slanted to pedestrians, are also available. These are 17" x 23" and are suitable for either indoor or outdoor use. Although small enough for bulletin boards, they can also be used effectively in much larger areas.

Miniature reproductions of the October traffic posters and information concerning them are given on the following pages of this issue of NATIONAL SAFETY NEWS. For further details, write to Operation Safety, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Black enameled metal frames for mounting the A and B posters are available from the National Safety Council. They are espe-

cially useful when display boards are not available or when it is desirable to spot a single poster at a strategic point. Frames are large enough to accommodate cardboard backing or a glass or plastic sheet in front of poster.

## Costs of Accidents

Accidents add to the cost of doing business. That's the theme of the Council's booklet, *Plus Costs*.

The booklet tells concisely how accidents nibble at profits and outlines the "why" and "how" of accident control. Intended specifically for those small firms with relatively few employees and no safety staff, *Plus Costs* sets down seven easy steps for eliminating accidents and suggests sources of help.

The booklet explains in non-technical terms just how these common-sense principles make for a good safety program and at the same time increase production.

Single copies of the eight-page booklet may be obtained without charge by writing the Small Business Program at Council headquarters.

## What's in It for the Worker

The skeptical worker who wants to know what he stands to gain from working safely will get a ready answer from the Council's new employee training booklet, *What's in It for Me?*

The 16-page booklet shows that everyone—the employer, the public and the worker—gains from a good safety program. Stressing the theme that no one is immune from



accidents if he is not careful, the booklet drives home the fact that it is not where you work but how you work that makes for safety.

*What's in It For Me?* encourages the worker to help himself to happier, accident-free living by aiding the company in its fight against accidents. By reporting unsafe conditions and unsafe acts, the worker can help find a better and safer way of doing the job.

Illustrated in four colors, the booklet uses few words, but plenty of cartoons, to put across its message. A sample copy will be sent on request.

Poise is the quality which enables you to buy a new pair of shoes without seeming to be aware of the hole in your sock.

A ladies sewing circle is a gathering at which more husbands are darned than socks.



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Call attention to your safety program with timely posters. For greater employee interest, change posters regularly.

A wide selection of subjects is as close as your copy of the 1954 Directory of Occupational Safety Posters. *It contains miniatures of 744 posters—topnotch selections on a great variety of subjects.* Additional copies are available at 50 cents each—write to Membership Dept., National Safety Council.

Posters miniaturized on this and the following pages are NEW. Excepting the Jumbo poster (left, upper), all will be in stock throughout 1954. Those posters shown in one color on the following two pages are actually printed in two or more colors.

*For a more successful poster program: first make your selections from the brand new posters shown on these pages and then from the hundreds of illustrations in the 1954 Directory.*



JUMBO POSTER for SEPT. 1954

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".



NATIONAL SAFETY COUNCIL  
0219-A 8½x11½

This new four color poster is illustrative of the 72 four color posters shown in the 1954 Poster Directory.



NATIONAL SAFETY COUNCIL  
0260-C 25x38

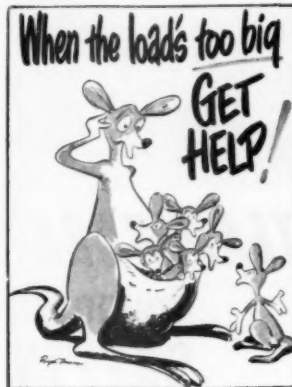
Above new "C" poster, issued monthly, is indicative of the other two color posters—shown in one color on the following pages and in the 1954 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors  
(Available only in sizes indicated)



NATIONAL SAFETY COUNCIL  
0143-A 8½x11½



NATIONAL SAFETY COUNCIL  
0221-A 8½x11½



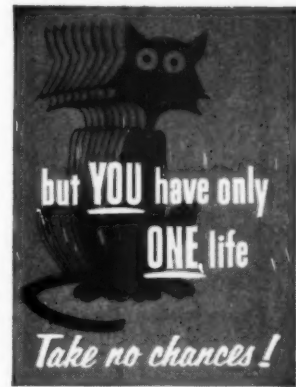
NATIONAL SAFETY COUNCIL  
0170-A 8½x11½



NATIONAL SAFETY COUNCIL  
0257-B 17x23



NATIONAL SAFETY COUNCIL  
0090-B 17x23



NATIONAL SAFETY COUNCIL  
0239-A 8½x11½



NATIONAL SAFETY COUNCIL  
0248-A 8½x11½



NATIONAL SAFETY COUNCIL  
0212-A 8½x11½



NATIONAL SAFETY COUNCIL  
0163-A 8½x11½

Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.

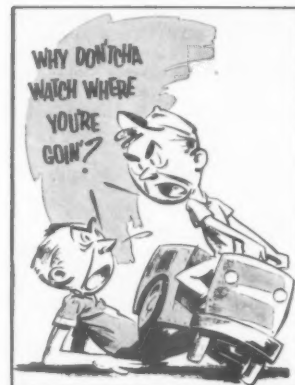
Posters below are printed in two or more colors  
(Available only in sizes indicated)



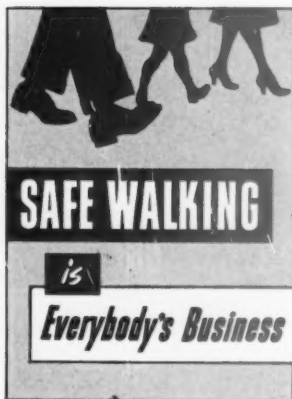
NATIONAL SAFETY COUNCIL  
0215-A 8½x11½



**TEAMWORK**  
Promotes  
**SAFETY**  
NATIONAL SAFETY COUNCIL  
0256-B 17x23



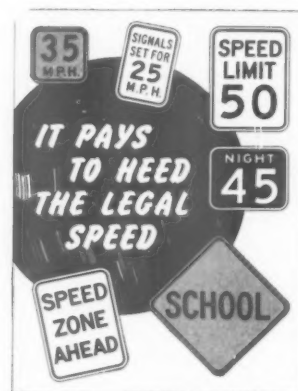
NATIONAL SAFETY COUNCIL  
0249-B 17x23



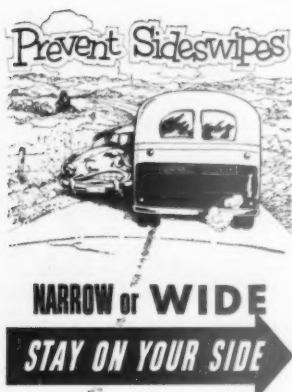
NATIONAL SAFETY COUNCIL  
T-0226-B 17x23



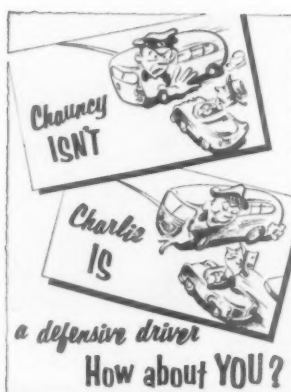
NATIONAL SAFETY COUNCIL  
T-0245-C 25x38  
T-0253-A 8½x11½



NATIONAL SAFETY COUNCIL  
V-0237-B 17x23



NATIONAL SAFETY COUNCIL  
V-0241-B 17x23



NATIONAL SAFETY COUNCIL  
V-0258-B 17x23



NATIONAL SAFETY COUNCIL  
V-0240-B 17x23

Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.





**"6,000 employees . . ."**

**A. W. STEUDEL**

President  
Sherwin-Williams Company

*"Naturally, we of Sherwin-Williams give complete endorsement to the Payroll Savings Plan. But we feel that mere approval of a national thrift movement that contributes so much to the personal security of our employees and the economic stability of our country is not enough. In our continuing effort to build employee participation in our Plan, we utilize the personal contacts and enthusiasm of our enrolled Payroll Savers. A recent person-to-person canvass by our employees put a Payroll Savings application blank in the hands of every man and woman in our plants and offices. The result, nearly 6,000 serious savers were added to our Payroll Savings Plan."*

The personal interest of executives like Mr. Steudel, and the systematic bond purchases of more than 8,000,000 enrolled Payroll Savers are reflected in the following figures:

- In March, 1954, purchases of U. S. Savings Bonds, Series E and H, by *individuals* reached \$474 million, highest March figure in 9 years—a gain of 20% over March, 1953.
- Purchases of E and H Bonds, by *individuals* during the first quarter of 1954, totaled \$1,380 million—the highest for any quarter since 1945.
- The *cash value* of Series E and H Bonds held by *individuals* at the end of March, 1954, was \$37 billion, 175 million—the highest in the thirteen year history of the Savings Bond program.
- Payroll Savers are serious savers: over 75% of the

amount of Series E Bonds that matured since May, 1951—almost \$9 billion—is still being held by individuals under the Treasury's 10 year optional automatic extension plan.

- For the third straight month of 1954, sales of E and H Bonds exceeded maturities and redemptions. The sales excess amounted to \$242 million on March 31—the highest first quarter net since 1950.

If employee participation in your Payroll Savings Plan is less than 50%—or if your company does not have a Payroll Savings Plan, get in touch with Savings Bonds Division, U.S. Treasury Department, Washington, D.C. Your State Director, U.S. Treasury Department, will be glad to help you install a Plan and build employee participation.

*The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and*

**NATIONAL SAFETY COUNCIL**



## DON'T LOSE MAN HOURS due to POISON OAK or POISON IVY

IDU Skin Lotion guaranteed protection against two of summer's most disabling and annoying poisons, poison ivy and poison oak.

For more than a decade IDU Skin Lotions has been giving outdoor workers, linemen, utilities workers, gardeners and foresters the protection they need from poison ivy and poison oak.

These two spring and summertime hazards to health and efficiency may soon become troublesome. Be prepared!

*Don't let these irritating conditions develop—use IDU for their prevention*

### ORDER NOW

Available at the following prices:

4 oz. bottles.....	\$ 6.00 a dozen
8 oz. bottles.....	\$10.00 a dozen
1 pint bottles.....	\$16.00 a dozen

Send for a free sample on official company stationery today.

**I. D. U. PRODUCTS CO.**  
WAUSAU, WIS.

## MAKE YOUR FANS SAFER! PROTECT WORKERS FROM INJURY



This fan guard prevents hand, arm and head injuries. Made of a mesh fabric, it is washable, mildewproof and won't interfere with the normal flow of air and is non-static.

Cover protects back and sides of fan as well as the front.

Immediate delivery. Write to

**ROCHESTER**  
Safety Equipment Co.

83-85 Howell Street Rochester 7, N. Y.

## STOP INJURIES and WORK INTERRUPTIONS from falling fluorescent tubes



Keep tubes in place with Don-El Fluorescent Lamp Guards, easily installed with screwdriver. Stainless steel, they spring open for relamping or cleaning, and last a lifetime.

For 40W tubes, per C, \$17.00  
For 100W tubes, per C, \$20.50  
ORDER TODAY DIRECT FROM



Hundreds of Safety Products. Free 85-page catalog.  
2723 W. Huntingdon St., Philadelphia 32, Pa.

## Green Cross News

—From page 48

portance of the "3-E's" in the occupational safety programs, as in traffic. It was also recommended that PTA groups should check on the construction of schools in their communities and be alert to see that safety is in the original construction plans, with enough fire exits for the protection of all children.

The traffic panel supplemented a plea by Don Eastvold, attorney general for the state, urging public support for the enforcement branch. Ray Hyatt, managing director of the Washington State Safety Council, cited the growing need for strict speed regulation and better parking facilities in Washington's ski areas.

Earl F. Campbell, director, Western Region, NSC, San Francisco, was moderator of the traffic panel. There were 150 in attendance.

## Clift Heads Cincinnati Council

Raymond E. Clift, for the past 19 years a member of the Cincinnati Police Department who rose to the rank of captain and superintendent of the Police Academy, has been appointed director of the Greater Cincinnati Safety Council. He succeeds Kenneth R. Miller, who resigned recently to accept the presidency of the Ohio Mechanics Institute.

The new director is a member of the Ohio Bar and a graduate of the Traffic Institute of Northwestern University and the FBI School in the Nation's Capital.

He took over his duties on June 7.

## They Love Their "Braves"

When one mentions the Milwaukee Braves anywhere within 100 miles of the famous Wisconsin city, he will always command eager attention, for the Braves have been "hot" and Milwaukee is simply wild about them. In a move to cash in on this interest and enthusiasm safetywise, the Milwaukee Junior Chamber of Commerce and the Cream City Outdoor Advertising Company got up a striking 24-sheet poster

which reads, "You are now entering Milwaukee Braves Reservation—Drive Carefully—We love our little 'Injuns'."

The poster is scheduled for showing on billboards throughout the Milwaukee area to run through the entire baseball season.

### Salem Plans Safety Program

The Salem (Ore.) Chamber of Commerce, under the direction of its president, William H. Hammond, and a group of interested civic leaders and public officials, at both state and city levels, plans an intensive traffic safety educational program, to be launched in the immediate future. Later on the safety division of the Chamber may branch out to cover the industrial, home and school fields.

The first meeting of the newly organized traffic division was a recent breakfast gathering, with some 15 members in attendance, including the Mayor of Salem, the city's police chief and several administrators from the state highway and other state departments. Tom A. Burke of the Western Region office, NSC, spoke to the breakfast group and at noon addressed the regular weekly meeting of the Chamber on the subject, "It's All Up Here, Mister!"

### "Engineered Safety"

A panel session on "Engineered Safety," sponsored by the local ASSE chapter and the Western Pennsylvania Safety Council, Pittsburgh, was held on June 22-23 in that city. The announced objective was to "stimulate industry to use engineering techniques in solving difficult safety problems" and to provide recorded experience exchange that latter may be published for distribution.

Clyde C. Ruddick, assistant safety director, Pittsburgh Plate Glass Company, served as moderator. John L. Young, vice-president of engineering, U. S. Steel Corp.; G. D. Cross, director of safety and training, Firestone Company, Akron; and H. B. Dufus, administrator, accident prevention, for Westinghouse Electric Corp., participated as panel members.

—To page 104

**LONG LIFE  
LOW COST  
PROTECTION**



HERE

HERE

HERE

**SAFELY  
THE BEST DRESSED MEN WEAR  
SURETY SURESEAL**

For neck-to-knees protection against virtually all types of industrial chemicals, you can't beat this ensemble of Surety Patented Turn-Cuff Gloves, Sleeves and Aprons—designed for comfortable fit, freedom of action and maximum protection. In Surety Sureseal (the only gloves made with HYCAR OR15, the super Buna N), the synthetic with highest resistance to the most chemicals, they're tough, snag and abrasion resistant, slow aging for long, low-cost service. Write for informative catalog.

THE  
**SURETY**  
RUBBER CO.  
Carrollton, Ohio

In Canada, Safety Supply Co., Toronto

**USE THIS NEW SAFETY MATERIAL  
ALL OVER  
YOUR  
PLANT**



Work platforms



Flooring



Gutter Covers



Partitions



**GRIP-STRUT**



**Safety**

**GRIP-STRUT**

**NON-SKID—RUGGED—LOW COST**

Safety Grip-Strut is a new basic material. All one piece, steel or aluminum, in various sizes and gauges. Sold like lumber, used like lumber and stocked in your storeroom like lumber. Ideal for on-the-job fabricating. Not welded, riveted or expanded. It presents an open space, in a diamond shaped pattern, in excess of 75% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for stair treads, fire escapes, cable trays, work platforms, catwalks, flooring and for original equipment safety treads. Your own mechanics can install it—it's inexpensive, yet permanent and safe.

Write today for new catalog showing loadings and methods of easy application in your plant.

Distributors in all principal cities.

**GRIP-STRUT division**  
**THE GLOBE COMPANY**  
Manufacturers since 1914  
4018 S. Princeton Ave. • Chicago 9, Ill.

National Safety News, August, 1954

103

**FOR CRAWLING OR  
DOWN ON KNEES WORK**

**USE J.L.S. RUBBER  
KNEE PADS**

**Price \$2.50 Pr.**



**FOR CLIMBING BE SURE  
WITH J.L.S.  
ALL RUBBER  
LADDER  
SHOE**

**\$2.95 Pr.**



**Johnson Ladder Shoe Co.  
Eau Claire, Wis.**

## **SAFETY ENGINEER**

### **Foreign Service**

Minimum 8 years accident prevention experience—4 years with insurance carrier, balance in drilling or oil field operations. Degree or equivalent training plus familiarity with oil handling codes required. Salary commensurate with training and experience.

Write giving full particulars regarding personal history and work experience. Please include telephone number.

#### **Recruiting Supervisor**

**Box 36**

**Arabian American Oil Co.  
505 Park Avenue  
New York 22, N. Y.**

## **Green Cross News**

—From page 103

### **Idaho Industrial Meet**

The Annual Eastern Idaho Safety Conference and Exposition was held at Pocatello, May 14-15. Emphasis was given to the organization and maintenance of construction and general industrial safety programs and to occupational health and hygiene problems as they affect absenteeism and the accident curve. W. L. Robinson, Commissioner of Labor, State of Idaho, was the keynote speaker. The Idaho Chapter, NSC, was one of the cooperating agencies. A. H. Zeilinger, superintendent of safety, Colorado Fuel and Iron Corporation, Pueblo, was the banquet speaker.

The Idaho Chapter, with headquarters in Boise, is now publishing an *Industrial Newsletter* for general circulation among Idaho plants.

### **Sacramento Fleet Awards**

The annual award dinner for winners in the Inter-Fleet Traffic Safety Contest sponsored by the Sacramento Safety Council, was held recently in that city. Fifteen fleets participated in the current competition which has been conducted for the past 12½ years. The companies operated 7,537 vehicles that traveled 5,240,386 miles during the six months' period. There were 112 accidents reported, with a frequency of 2.13 accidents per 100,000 miles of operation.

The dinner, attended by 170, was the 25th semi-annual banquet held since the start of the program. Charles L. Pratt, president of the safety council, directed the meeting.

### **Portland Awards**

Four Public Interest Awards from NSC were presented on May 3 in Portland's City Council and Chambers, with the Mayor and city fathers sitting as interested observers and with an official recording of the program as part of the city business for the day. Awards were presented by Earl F. Campbell, director, Western Region, NSC, to J. B. Conley, Station KEX; Al F. Hartung, of the

International Woodworkers labor organization; Jack E. Schnaidt, of Foster & Kleiser Outdoor Advertising Company; and Dean F. Sherman, of the trade magazine *The Timberman*. Campbell praised Portland's safety record and gave credit to public media for much of it. The affair was arranged by Manager William J. Weller of the Portland Traffic Commission, to show the interest and support of Portland's official family in safety work.

## **Death Rate Down**

—From page 29

### **Public Non-Motor-Vehicle**

Approximately 16,000 persons were killed in public non-motor-vehicle accidents during 1953. Of these, 3,900 were killed in accidents involving streetcars, railroad trains, boats, airplanes, bicycles and other road transport vehicles, but not involving motor vehicles. The largest single cause of public nontransport deaths was drowning, with a total of 4,400 deaths not including those associated with transport accidents or those in which the person was drowned while he was at work. Deaths from falls ranked second with 3,000, deaths from firearms accidents third with 1,450, and fire burns and injuries associated with conflagrations fourth with 450 deaths.

### **Railroad**

During 1953 a total of 3,110 deaths occurred in railroad accidents or about the same number as occurred in 1952. This total includes deaths of passengers, employees, other nontrespassers and trespassers.

Deaths of passengers on trains increased from 14 in 1952 to 50 in 1953. The passenger death rate in terms of passenger miles traveled was 0.16 per 100,000,000 passenger miles. Trespasser deaths numbered 1,009, a 4 per cent decrease from the previous year.

Deaths of employees on duty totaled 339, a 12 per cent decrease from 1952. The employee death rate, for Class I roads only, was 0.12, or 14 per cent below the 1952 rate. The frequency rate for



all injuries—deaths, permanent disabilities and temporary disabilities causing absence of one or more days—was 13.81 injuries per million man-hours worked.

Deaths from grade crossing accidents numbered 1,592. Collisions between trains and motor vehicles accounted for 1,419 of these deaths, a 5 per cent increase from 1952. National motor-vehicle mileage was 5 per cent greater than in 1952.

#### Aviation

The 1953 passenger death rate for the domestic passenger-carrying operations of scheduled air lines was 0.56 per 100,000,000 passenger miles, compared to 0.35 in 1952 and 1.3 in 1951. The passenger death rate in 1930 was 28.6, or 51 times the 1953 rate. Out of a total of 101 persons killed in domestic scheduled air line passenger-carrying operations 86 were passengers and 16 were crew members.

Deaths in civilian nonscheduled domestic air-carrier service and private flying combined totaled 768 in 1953, or 1 per cent more than occurred in 1952. Of these, 16 deaths occurred in nonscheduled air carrier operations, and 752 in other commercial operations and in private flying.

#### Today's Accident

—From page 37

you wouldn't have put it around that building job. You'd have put it south of the dump, where we've had three narrow escapes from hurting kids who were cutting across lots to school."

If it's humbling to have your boss tell you what you should do, it's downright humiliating to have your assistant do so. But the clenched hands reaching up out of the gravel have been a symbol of humiliation, and my pride was at a very low ebb.

And it was some comfort that the wisdom from my assistant was at least a form of my own wisdom being fired back at me.

So, I've accepted the accident today, not as a determining event, driving me to a narrow and specific course of action to prevent that accident which no longer can be prevented, but as the spur scar-

ring my side and driving me to a broader, more comprehensive plan of attack on a whole family of real hazards.

The proposals are drawn up now, and when my secretary finishes typing them, they'll be passed on to Larson for action.

The proposals are sound, I think. They will eliminate the hazards by the dump. They'll give us an opportunity for a real educational effort in the schools on the plant and its hazards to children. That'll help in community relations and make it easier to train these children when, a few years from now, they come on the payroll.

Yes, they're good proposals, the best Harry and I can produce. I wonder if Larson will realize that good though they are, not one of these proposals offers an assurance of preventing an exact duplication of today's accident. And if he does realize that, I wonder if he will agree that we are right in not dealing with this specific situation.

#### Safety Library

—From page 64

*pliances Approved Under United States Bureau of Mines Standards.* Published by U. S. Bureau of Mines, 1954, 6p. Report of Investigation 5056. Free. Available from The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

#### MAGAZINE ARTICLES

##### Chemicals

*Safe Handling Procedures of Compounds Developed by the Petro-Chemical Industry.* By Charles Henri Hine. *American Industrial Hygiene Association Quarterly*, June, 1954, p. 141.

##### Commercial Vehicles

*Fit the Machine to the Driver.* By Russ A. McFarland, *SAE Journal*, June, 1954, p. 41.

##### Construction

*Attack Accidents at Their Source.* By John D. Gallagher. *Construction Methods and Equipment*, June, 1954, p. 144.

##### Eyes

*The Eyes of the Industrial Worker.* By Ralph W. Ryan and

O. T. Mallery, Jr. *Industrial Medicine and Surgery*, June, 1954, p. 243.

#### Fertilizer Industry

*Ammonium Nitrate Dangers Told in Newly-Found Report.* By Paul C. Detzel. *Fire Engineering*, June, 1954, p. 482.

#### Fire Prevention

*Fire Prevention in Graphic Arts Industry.* By Mathew M. Braidech and Lawrence M. Ford. *Printing Equipment Engineer*, June, 1954, p. 69.

*Five Steps to Ward Off Plant Fires.* By W. K. Ousley, *SAE Journal*, May, 1954, p. 29.

#### Food Industry

*Plant Safety. \$ \$ Saved by a Good Record.* *National Provisions*, June 26, 1954.

#### Health

*Coal Miners Pneumoconiosis.* By Joseph E. Martin. *American Journal of Public Health*, May, 1954, p. 581.

*Diatomaceous Earth Pneumo-*

**You Can't Fall**  
IT'S A LIFE SAVER



IT LOCKS—IT HOLDS

**Prevents death and injuries from falling.**

#### SAFETY DEVICE FOR LADDERS

Easy and inexpensive to install: Clamps to rung, peg, pole or frame. No welding or cutting.  
Simple to operate: No upkeep. Requires no attention from climber. Anyone can use it.  
Safety Specifications: High safety factor. Will not rust or corrode.

#### Safety Tower Ladder Co.

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BURBANK, CALIFORNIA



ALSO MANUFACTURERS:  
SAFETY LIFELINE LOCK

Member  
National Safety Council

# sellstrom safeguards designed for comfort

## Complete Face Protection Against Sparks and Flying Particles



This Sellstrom No. 325 Dependon Face Shield has gained great popularity since its recent introduction as an addition to the Sellstrom line of Dependon Shields. It has a use in practically every industrial plant where there is an eye or face hazard. Here are a few of the outstanding features:

1. Completely covers and gives full protection to the face, eyes, ears, chin and forehead.
2. Genuine leather sweat band for utmost wearing comfort.
3. Patented Vulcoid adjustable head band to fit every head.
4. Large fibre top and formed bottom act as a single unit, being connected by sturdy fibre side pieces surrounding the cellulose acetate window.
5. Window is  $6\frac{3}{8}$ " x  $11\frac{3}{4}$ ". Your choice of .020, .040, or .060 clear or .020 green acetate.

Most dealers carry this No. 325 Sellstrom Dependon Shield in stock for immediate delivery. We urge that you give this shield an opportunity to render service to your workers.

If you desire, write us for additional information or for a sample Face Shield on memo for examination purposes.

# sellstrom

MANUFACTURING COMPANY

Eye and Face Safeguards Designed for  
Utmost Comfort

622 N. Aberdeen Street Chicago 22, Illinois

coniosis. By Herbert K. Abrams. *American Journal of Public Health*. May, 1954, p. 592.

*Impact of Labor Health Plans on Occupational Health—The Opportunity.* By Wm. A. Sawyer. *American Journal of Public Health*. May, 1954, p. 600.

### Mines

*How to Install Roof Bolts.* By E. F. Huston. *Coal Age*. June, 1954, p. 98.

*How to Sink a Shaft Safely and Efficiently.* By George P. Lutjen. *Engineering and Mining Journal*. June, 1954, p. 73.

### Noise

*Noise, Noxious or Nice.* By Lamont Pugh. *American Industrial Hygiene Quarterly*. June, 1954, p. 127.

*The Treatment of Industrial Noise.* By Henry D. Sayer. *Best's Fire and Casualty News*. June, 1954, p. 20.

### Off-the-Job Safety

*How Industry Enlists the Family in Safety.* By Alfred G. Larke. *Dun's Review and Modern Industry*. June, 1954, p. 33.

### Refrigeration

*"Freon-13" Offers Safety in Cooling Application to Mines 150°.* *Refrigeration Service and Contracting*. June, 1954, p. 55.

### Saws

*The Proper Use of the Power Saw as a Cutting Tool.* Panel Discussion. *Pulp and Paper Magazine of Canada*. May, 1954, p. 136.

## Calendar Contest Winners for June

First prize in the National Safety Council's Safety Calendar Contest goes this month to Paul W. Klein, Arizona Public Service Co., Phoenix, Ariz. The theme in this contest was stop accidents—dress for safety. Mr. Klein's line was adjudged the best of all those submitted. It was:

*Just one frill could help kill under stress.*

Second prize went to Louise Surgison, West Penn Power Co., Pittsburgh, Pa., for this line:

*Fit the togs to the task—that's finesse!*

Third prize was awarded to Mrs. E. K. Walsh, Pratt Whitney Aircraft, East Hartford, Conn., for the following line:

*Dress so Neat you're a Treat to Caress.*

The limerick for the June contest was:

*With a natural desire to impress,  
Gals are fussy about how they dress.  
But remember, Good Lookin',  
When washin' or cookin'*

Thirty \$5 awards were issued to:

Mrs. C. M. Charley, Timber Products Co., Medford, Ore.

Mrs. Harold J. Raynor, Pullman Co., Chicago, Ill.

Mrs. J. M. Hampton, The Texas Company Terminal, Port Arthur, Texas.

Mrs. Earl Boyle, Buckeye Steel Castings Co., Columbus, Ohio.

Walter M. Sult, American Car & Foundry Co., Berwick, Pa.

T. V. McCoy, Jr., Magnolia Petroleum Co., Beaumont, Texas.

B. E. Mullen, Minnesota Highway Dept., St. Paul, Minn.

M. A. Adams, Kingsport Press, Inc., Kingsport, Tenn.

Leslie M. Kerrison, The Ohio Oil Co., Haynesville, La.

F. G. Rombach, Missouri Public Service Co., Nevada, Mo.

Arthur Williams, Stauffer Chemical Co., Tacoma, Wash.

Erwin E. Weis, Wisconsin Telephone Co., Milwaukee, Wis.

Mrs. Clara Louise Gorsline, Chicago, Ill. (Individual Member)

Miss Ellostein Wright, Birmingham Southern Railroad Co., Fairfield, Ala.

Mrs. Mary Stark, Loyalty Group Insurance, Newark, N. J.

Mrs. Nellie Gruelle, U. S. Army, New Haven, Ind.

Henry B. Reilly, Montana Power Co., Livingston, Mont.

Mrs. Virginia Kehler, A T & S F Railroad, Emporia, Kans.

Mrs. William D. Burke, United States Steel Corp., Biwabik, Minn.

Mrs. Faith Elder, Niantic, Ill. (Individual Member)

Eugene Galbreath, Indiana & Michigan Electric Co., South Bend, Ind.

Jef Brewer, United States Steel Corp., Gary, Ind.

Fred Gould, Longlac Pulp & Paper Co., Ltd., Terrace Bay, Ontario, Canada.

Mrs. Harold Levengood, Butte, Anaconda & Pacific Railway Co., Anaconda, Mont.

Mary R. Garner, Indianapolis, Ind. (Individual Member)

Mrs. Margaret B. Collins, Bradford City School District, Bradford, Pa.

Mrs. Violet Hagenbuch, St. Regis Paper Co., Nazareth, Pa.

Mrs. H. L. Miller, Warren Petroleum Corp., Houston, Texas.

Mrs. Edith E. Morgan, Blairstown, N. J. (Individual Member)

Miss Tanis Monteith, British Columbia Electric Railway Co., Ltd., Vancouver, B. C., Canada.



## NEW SAFETY EQUIPMENT for INDUSTRY

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

### Industrial Warning Light

Using the same principle as the revolving red warning light atop fire, police and other emergency vehicles, this new electric signal light may be used to indicate hazardous work areas, or as a visual communications light in noisy shops, or over long distances. The light, which operates

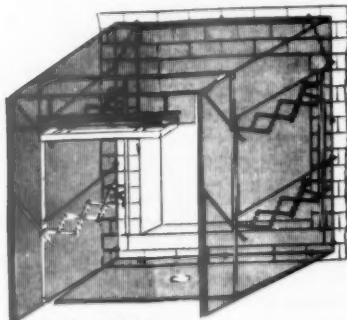


on 110 volts, is available with green, blue, amber or clear lenses. The company also provides a red lens which is restricted to warning usage in locations not in conflict with official municipal or governmental warning or emergency lights. The beam revolves horizontally in a 360-degree arc, producing 100 flashes per minute.

The Federal Sign and Signal Corp., 8700 S. State St., Chicago 19.  
Item No. 1.

### Dock Shelter

The "Dazzo" dock shelter provides a foldable, tunneled passageway from building door to truck or railroad car. It is designed to reduce loss of heat or cold in buildings during loadings, keep loading



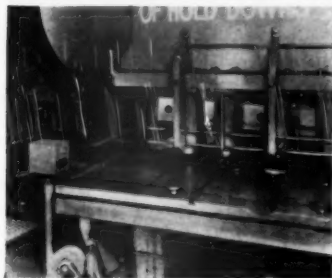
Patent Pending

platforms dry, and protect merchandise and loading dock personnel from exposure in inclement weather.

Dazzo Products, Inc., 152 Bleeker St., New York 12.  
Item No. 2.

### Electronic Guarding

The operator of a shear, automatic lathe, or small punch press may be protected from injury by the Modulite safety beam. In regular operation, interruption of the beam stops the machine. Should this safety equipment fail for any reason, then the machine is stopped automatically. The Modulite projector throws a light beam that is pulsed several hundred times per second. The receiver is sensitive to this frequency like a radio tuned to a station. Thus, all surrounding light is rejected. Both the projector and receiver are furnished in identical housings. The projector contains a low-voltage lamp,



transformer, rotary shutter and lens. The whirling shutter interrupts the light so that the beam consists of a continuous stream of light pulses. The receiver contains lens, phototube, amplifier and relay. The phototube converts the light pulses into electrical pulses.

Electronic Control Corp., 1573 E. Forest Ave., Detroit 7, Mich.  
Item No. 3.

### Vacuum Blower

A new, all-purpose vacuum blower known as the F-300 is now in production at Multi-Clean Products, Inc.

Said to be capable of handling all types of industrial cleaning jobs, the F-300 has a detachable power head and dust bag weighing 16 pounds which may be carried and operated as a blower or vacuum in areas too small or confining for the vac tank. The high velocity air stream may be used for blowing out dust, litter and foreign material from motors, sensitive electrical equipment, and other delicate or hard-to-get-at places.

The company lists among the new vac blower's construction and operating features a permanently sealed ball bearing



power unit with a heavy duty 1 hp 115 v. A.C.—D.C. motor that has a blowing force of 220 cfm and suction of 43 inches maximum water lift.

Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul 1, Minn.  
Item No. 4.

### Added Water Capacity for Portable Vacuum Machines

Users of the Hild Model 115 vacuum, or other similar makes of portable vacuum machines, can now increase the capacity of their units to 25 gallons of recovered liquid. This is accomplished by coupling the new Add-A-Tank to the vacuum with a short piece of hose. With the intake



hose connected to the tank, vacuum suction first fills the tank to its full 15 gallon capacity. Water then begins to flow over

## NEW SAFETY EQUIPMENT for INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer or by circling corresponding item number on Reader Service Postcard.



into the vacuum which provides 10 gallons additional capacity.

The Add-A-Tank may be obtained with wheel carriage to make it a portable unit, or it may be placed on a hand truck, together with a vacuum from which the wheel carriage has been removed, for use as a single unit. The Add-A-Tank weighs 26 pounds separately; 40 pounds with the wheel carriage.

Hild Floor Machine Co., 740 W. Washington Blvd., Chicago 6.

Item No. 5.

### Floodlight

Crouse-Hinds has just announced a new general purpose floodlight. Identified as type MDB-10, it is available with either a flat base or a suspension assembly. The floodlight may be installed in grounds, lawns or turf on elevated metal arm brackets, mounted in a 6-inch flat steel base.



The base has two mounting holes spaced to fit a 4-inch outlet box and a 1½-inch knockout. The aluminum suspension base has a ½-inch conduit thread and is equipped with two feet of cable with terminals. These terminals are to be attached to the terminal block of a Crouse-Hinds type GPT cross arm for installation on poles. The new floodlight is 11⅞ inches long and 11⅞ inches across the lens face.

Crouse-Hinds Co., Wolf and 7th North Sts., Syracuse, N. Y.

Item No. 6.

### Heavy-Duty Floor Maintainers

A line of four new floor maintenance machines has just been announced by Clarke Sanding Machine Company. U.L. approved, the machines are, according to their manufacturer, attractively streamlined. Accessories which provide facilities for wet scrubbing, waxing, polishing, steel wooling, shampooing, disc sanding and grinding, are interchangeable. The machines are controlled with either or both

hands, and stop when hand pressure is released. The handle has rubber hand grips, cable hook and heavy sleeve strain reliever for non-marking rubber cable. The



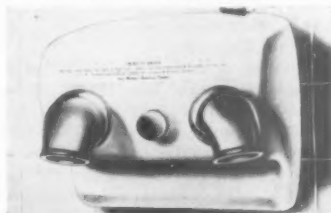
handle locks in any position in a 90-degree arc. These new machines feature automatic self-retracting wheels and a planetary gear train for quiet operation.

Clarke Sanding Machine Co., Department PB, Muskegon, Mich.

Item No. 7.

### Electric Hand Dryer

A new electric hand and face dryer has been developed that has two hot air nozzles. Operated on either 115 volt or 220 volt circuits, and carrying U. L. approval, this dual nozzle dryer is housed in a white and chrome cabinet which may be mounted in a wall space of 13 inches by 11½ inches. A timing device shuts off the unit automatically at the end of a 40-second cycle—more than twice the length of time required to dry hands, according to the manufacturer. Both nozzles revolve on a complete 360-degree cycle, allowing for face, underarm and body drying.



American Dryer Corp., 1324 Locust St., Philadelphia 7.

Item No. 8.

### Non-Skid Floor Coating

NeoFloor is a new non-slip floor surfacing system developed by the Pennsylvania Salt Manufacturing Company. It consists of a grit-like material anchored in a matrix of neoprene, which is in turn bonded to the floor with adhesive primer. Application may be made with either a brush or a roller, and according to the manufacturer, may be applied at the end of a working day, and ready for foot traffic the next morning. NeoFloor was developed particularly for use in machine shops, plating shops, food processing plants, chemical plants and other locations where a durable, skid-proof surface is required.

Corrosion Engineering Products Dept., Pennsylvania Salt Manufacturing Co., 1000 Widener Bldg., Philadelphia 7.

Item No. 9.

### Fire Extinguisher Cart

A rubber-tired, ball bearing cart, known as the Pull-it, has been developed by this manufacturer to transport its dry chemical fire extinguishers. The "Pull-it" is 44



inches high, 16 inches wide and 13 inches deep. It weighs 16 pounds net. This cart is particularly suitable for use where fire hazards are dispersed over large areas because of its maneuverability and light weight.

Ansul Chemical Co., Marinette, Wis.

Item No. 10.

### General Cleaner

According to the manufacturer, the Oakite General Cleaner is a powdered de-





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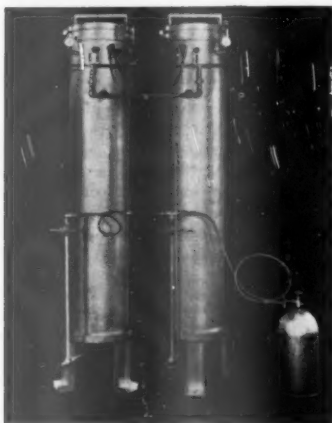
tergent that dissolves completely in water. It has been developed especially for hand cleaning operations in bottling, canning, meat packing and other food processing plants. The suds that are produced are said to be stable even when the solution becomes contaminated with fats and solid soils. Oakite general cleaner has water softening and wetting out properties, and contains ingredients that emulsify fats and dissolve minerals present in many soils. The suds may be rinsed in hot or cold water.

Oakite Products, Inc., 114D Rector St., New York 6.

Item No. 11.

### Refilling Unit for CO<sub>2</sub> Extinguishers

A new dry ice converter equipped with a special piping set-up for extinguisher filling has been developed. Dry ice converters are pressure vessels with removable quick-opening closures into which dry ice is charged. This dry ice sublimates to a gaseous-liquid state, and may be so stored indefinitely, CO<sub>2</sub> being drawn off into ex-



tinguishers as needed. The converter openings are large enough to allow entry of full-sized 50-pound cakes. Operation requires no gas or electric source, and the unit may be installed either in vertical position (as shown), or horizontally.

Dry Ice Converter Corp., Tulsa, Okla.

Item No. 12.

### Portable Barrier

The "Safe-T-Bar" barrier is a lightweight assembly consisting of three basic parts: a hinged sign frame, a folding "A" leg assembly, and an adjustable-height single leg. The manufacturer states that this simple design makes it possible to erect a variety of barricades: continuous bar-

riers of any length, enclosure barricades around manholes or excavations. The joints between sign frame units are articulated so that the barrier can follow irregular lines, while adjustable height single legs will accommodate uneven terrain.

Barmotive Products, Inc., 440 Peralta Ave., San Leandro, Calif.

Item No. 13.

### Aluminum Step Ladder

This new, lightweight aluminum step ladder has side rails of extruded aluminum channels that are joined at the top with heavy plated steel hinges. Good stability is created by the double bases at the bot-



tom step and the double riveting on the face of the steps.

Steps are also extruded aluminum with a new type of serrated surface for better footing. Rubber pads are used on all floor contact points. Sizes range from 4 feet through 12 feet.

Louisville Ladder Co., 1101 W. Oak St., Louisville 10, Ky.

Item No. 14.

### Combination First Aid and Snake Bite Kit

This new combination VEN-AID contains all the necessary supplies to give immediate emergency treatment for minor injuries. In addition, it includes treatment materials for snake bite that permit the victim to treat himself with medically approved venom extraction equipment. VEN-AID kits are designed to be carried in the pocket or glove compartments of automobiles, trucks, and tractors or on the belt in a canvas carrying case. All supplies are immediately replaceable.

E. D. Bullard Co., 275—8th St., San Francisco 3.

Item No. 15.

### Lighting Fixtures

Specially designed for use in damp locations, these new moisture-proof lighting fixtures permit safe operation in showers, bathrooms, laundries, dairies, barns, and similar locations. Danger of short circuits



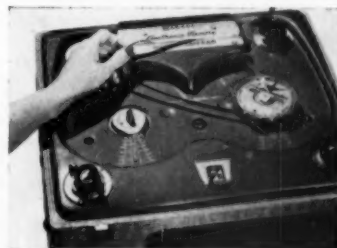
and shocks from water in units is prevented by waterproof cement which seals wiring, and sockets and by two rubber gaskets, one between fixtures and wall or ceiling and the other between shade and fixture. Both fixtures have opal glass shades for even, general illumination, and one shade has a clear fresnel lens at the bottom to concentrate light directly below it. Both take bulbs up to 100 watts and carry U. L. approval.

John I. Paulding, Inc., New Bedford, Mass.

Item No. 16.

### Message Repeater

Here is a warning device which can automatically and continuously repeat messages of from 15 seconds to 15 minutes. The Universal "300" Audio-Vendor, when used with any tape recorder and sound amplifier can be activated by a photoelectric cell, floor mats, or drive-way hose like that used at gas stations. The speaker can be placed in the most effective loca-



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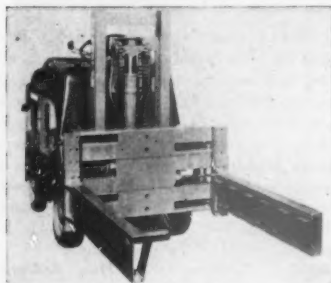
tion and warning messages recorded to suit each situation. Truck drivers can be warned of pedestrians, low overheads and sharp turns. Punching a time clock can remind workers to don safety goggles. Fire-control doors can be made to keep "talking" until they are closed. And people entering zones where no smoking is allowed can be ordered to put out cigarettes. Plants with public address systems can also use the Audio-Vendor for messages and emergency warnings.

Cousino, Inc., 2512 Madison Ave., Toledo 2, Ohio.

Item No. 17.

### Crate Clamp Attachment for Fork Lift

Faster, safer handling of crated material is now possible with the new Crate Clamp, just announced by Towmotor Corp. Originally designed to handle one, two or four crated water heaters, this new clamp attachment may be used for handling many other types of crated materials.



Springs, mounted along the inner length of each arm, contact crossmembers of the crate. At points where they come in contact with vertical members, the springs compress preventing damage to crates or contents. This assures secure holding pressure.

The crate clamp is controlled by a special clamp operating mechanism, also developed by Towmotor. This device permits other Towmotor clamp attachments to be interchanged quickly with the crate clamp.

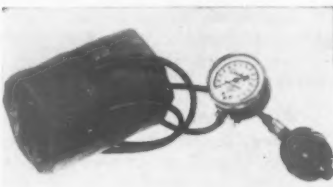
Towmotor Corp., 1226 E. 152nd St., Cleveland 10, Ohio.

Item No. 18.

### Blood Pressure Unit

The "Circlecuff Blood Pressure Unit" consists of a cuff, a gauge, and a new method of finger-tip bulb control, and is said to speed and simplify the taking of blood pressure by a doctor, a nurse, or other properly instructed individual. The "Circlecuff," because of its uniform all around pressure, requires no expert wrap-

ping around the arm or exact positioning over the brachial artery. It is self-adjusting, and measures pressure accurately regardless of the size of the arm.



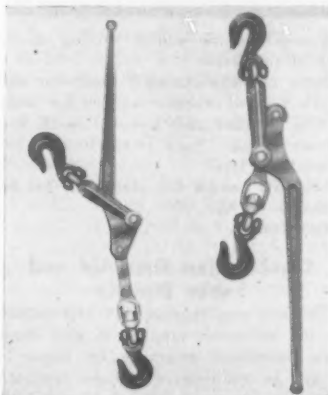
The bulb control is provided by two tiny holes instead of the usual screw valve. The operator merely covers the holes with thumb and forefinger during inflation and then releases the pressure slightly from the smaller hole to find the blood pressure in the usual manner.

Robbins Instrument Co., Attleboro, Mass.

Item No. 19.

### Load Binder

A drop forged, load binder with jaws that won't spread and that will take several chain sizes has been developed by Thomas Laughlin Company. According to their announcement, jaw spreading has been eliminated by swinging the swivel tongue on the end of a slotted jaw handle, and the clevis back on the trunnions. Because the swivel tongue swings on a pin inside



the jaw, any force under pressure is directed inward rather than out. This makes it impossible for a heavy pull, with a persuader for example, to spread the jaw. The handle itself is an integral part of the unit and can't loosen. The entire binder is made of heat-treated steel, and may be obtained in two sizes: the number one binder takes hook sizes  $\frac{1}{4}$  inch,  $\frac{5}{16}$  inch,  $\frac{3}{8}$  inch and  $\frac{7}{16}$  inch; the number

two binder takes hook sizes  $\frac{3}{8}$  inch,  $\frac{7}{16}$  inch,  $\frac{1}{2}$  inch and  $\frac{5}{8}$  inch.

Thomas Laughlin Co., Portland, Maine.

Item No. 20.

### Flashlight

The latest addition to the Justrite line is this new, 8 cell flashlight which features a 3-inch focusing reflector and a new oblong bulb said to develop  $2\frac{1}{2}$  times the candlepower of a standard bulb. Among the other construction features are insulators treated to resist battery leakage and moisture; contacts designed to take up variations of battery lengths; and a heavy gauge sturdy cord. Both insulators and contacts can be removed for cleaning.



This handlight is square in shape and has a flat base with a swivel headpiece which allows the light to stand by itself with the beam directed where needed, leaving both hands free for work. The carrying handle folds against the side of the case when not in use. The case is made of steel finished in scarlet wrinkle baked enamel.

Justrite Manufacturing Co., 2061 No. Southport Ave., Chicago 14.

Item No. 21.

### Plastic Work Gloves

This new line of plastic work gloves is available in three styles: a palm coated knit wrist, a fully coated knit wrist, and a fully coated 12 inch gauntlet. All three styles are made of fabric liners coated with a dark green plastic. They are, according to the manufacturer, entirely flexible, provide a firm grip, and the fully coated styles are resistant to liquid.

Edmont Manufacturing Co., 1205 Walnut St., Coshocton, Ohio.

Item No. 22.



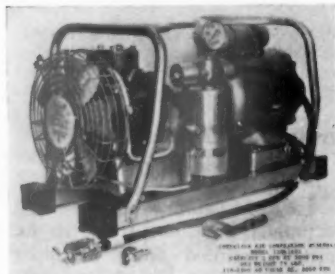


## NEW SAFETY EQUIPMENT for INDUSTRY

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### Portable Air Compressor

The Cornelius Company has introduced a new line of lightweight, portable air compressors particularly designed for charging demand type breathing apparatus such as Scott Air-Pak and MSA Respiratory Equipment. The new units are avail-



able with electric motor or gasoline engine power source. The new compressors are miniature in size, and weigh less than 50 pounds complete with power source.

The Cornelius Co., 550—39th Ave., N. E., Minneapolis 21, Minn.  
Item No. 23.

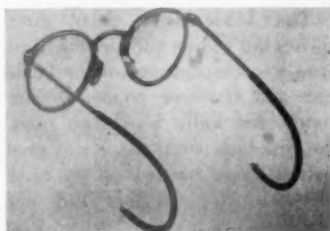
### Plastic-Coated Work Gloves

A new line of Stanflex has just been announced. Available in knit wrist, band top and gauntlet styles, these plastic-coated work gloves feature single-seam construction which gives a 47 square inch, seam more free work surface. This new type construction was designed to prevent hand chafing and abrasion. This new line resists tears and snags, and is recommended by the manufacturer for work involving the handling of acids, caustics and other common industrial chemicals.

The Pioneer Rubber Co., Willard, Ohio.  
Item No. 24.

### Safety Glasses

Called the "Saf-I-Spectacle," this new metal-framed safety spectacle has a soft polythene nose pad that fits the contours of the nose and distributes weight without pressure. The spectacle frames are made of corrosion-resisting nickel silver and the



lens is manufactured from optical plastic which resists scratches and has a surface hardness approaching that of hardened glass. According to the manufacturer, the "Optilite" plastic lens reduces the weight 30 per cent over the same spectacles fitted with hardened glass lenses. These glasses can be obtained with perforated, non-corrosive metal side shields for jobs requiring both front and side protection.

United States Safety Service Co., 1215 McGee St., Kansas City, Mo.  
Item No. 25.

### Fire Alarm

Powered by harmless, compressed Freon gas, the new FYR-LARM is an automatic, self-powered single station fire alarm which creates a long-lasting, 95-decibel shriek when fire breaks out in its locality.



The alarm is activated at 140° F. The standard model sounds an alarm for a minimum of five minutes, whereas the industrial model provides an eight-minute alarm. Both units are light in weight, and may be installed to a wall at ceiling level in a vertical position with screws, nails, or hooks. The cylinder and hanger are enameled gray, the balance of the unit is chrome plated.

Fyr-Larm Co., Inc., 243 Broad St., Summit, N. J.  
Item No. 26.

### Patching Compound for Concrete Floors

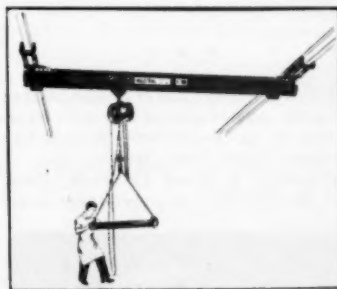
Called Kwik-Roc, and supplied in powder form, this new material permits rapid repair of cracks and holes in interior concrete floors. This new material is simply mixed with water, poured into cleaned out

hole or crack, and leveled with the surrounding floor. According to the manufacturer, normal traffic may be resumed over the repaired area within 45 minutes after pouring. Kwik-Roc is not recommended for use on exterior surfaces; on interior floors that are constantly wet or subject to spillage of water or acids; or for resurfacing entire floor areas.

Sun Chemical Corp., Long Island City, N. Y.  
Item No. 27.

### Push-Type Cranes

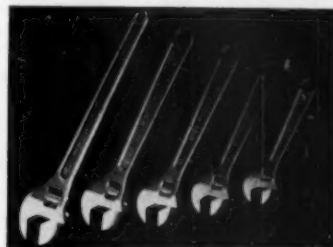
Industrial Crane and Hoist Corporation announces a new expanded line of push-type cranes with a number of important new construction features. Their light duty model is available in five different capacities; the heavy duty model in seven capacities. The heavy duty cranes are of underhung design and are equipped with forged steel wheels with removable head axles. All types are available in various spans and can be equipped with hand operated or electric hoists.



Industrial Crane and Hoist Corp., 315 N. Ada St., Chicago 7.  
Item No. 28.

### Open-End Wrenches

This new series of open-end wrenches is made of forgings that equal steel tool specifications, according to its manufacturer. The use of forgings has resulted in a weight reduction of 10 per cent, and the manufacturer indicates a 30 per cent



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increase in strength, supported by the following test load table.

No. W-70	6"	at	700	in/lbs.
No. W-71	8"	at	1000	in/lbs.
No. W-72	10"	at	1500	in/lbs.
No. W-73	12"	at	2200	in/lbs.
No. W-74	15"	at	2800	in/lbs.

Replacement parts are interchangeable.

Ampco Metal, Inc., 1745 S. 38th St., Milwaukee 46, Wis.

Item No. 29

### NEWS ITEMS

C. Walker Jones Co., Philadelphia, Pa., well-known manufacturer of work gloves, has announced that its name will henceforth be Jomac, Inc. The mailing address of this company becomes 6128 North Woodstock Street instead of 6135 North Lambert Street. There is no change in the officers or personnel of the corporation.

In addition to the Philadelphia plant, Jomac, Inc. operates a complete production line plant in Warsaw, Ind., as well as a plant in Montreal, Canada.

\* \* \*

H. F. Huttemeyer has been appointed to the newly created post of director of production at the Pennsylvania Optical Co., 234 South Eighth Street, Reading, Pa.

According to Henry Cheatham, President, Mr. Huttemeyer's appointment is the



result of a long-range expansion program embracing the manufacture of industrial safety equipment, sun glasses, and electronics specialty items.

\* \* \*

The appointment of Wesley W. Wallace as Southwestern regional sales manager was recently announced by Scott Aviation Corp. Mr. Wallace will supervise all sales



activity of Scott safety equipment, including the Air-Pak self-contained breathing unit for fire fighting and industry. Other Scott sales under Mr. Wallace's supervision are Scott oxygen inhalators, respirators and the Hydro-Pak, a new underwater breathing unit. The new Southwestern office is located at 6008 Auden Street, Houston 5, Texas.

\* \* \*

The Board of the Practical Products Co., Inc., has announced that E. J. St. Laurence, president, retired from the firm as of June 1, 1954. Mr. St. Laurence is well-known for his pioneer leadership in the development of Kleer-Flo degreasing equipment for automotive, implement and industrial uses. S. R. Kresberg, former secretary and treasurer, will assume leadership as president. Practical Products Co. is located at 2632 Nicollet Avenue, Minneapolis, Minn.

\* \* \*

The General Scientific Equipment Co. of Philadelphia has appointed George E. Cimiotti, 2109 Wightman Street, as their Pittsburgh representative. Mr. Cimiotti will service the western Pennsylvania, West Virginia and Ohio areas.

\* \* \*

Robert H. Galamagos, 601 Forest Avenue, Bay Village, Cleveland, Ohio, has been appointed sales engineer for Ohio, according to a recent announcement by the John B. Moore Corp. of Nutley, N. J. Servicing of this company's Ohio area is to be handled from warehouse stocks in both Pittsburgh and Detroit.

\* \* \*

### Improper Operation ... Near-Injury

A square cutter accident, which fortunately did not result in an injury, resulted from improper operation of the machine while changing knives. It occurred in the paper finishing division.

According to the Company's safe practice for changing square cutter knives, the operator lowers the knife to the machine bed with power on, then removes the two bolts that are inaccessible when the knife is in its top position. He then returns the knife, still under power, to top position before shutting off the machine and proceeding with the remainder of the knife change procedure.

In this case, the operator lowered the knife and then removed *all but one* of the bolts, leaving only one bolt at the extreme left hand end of the knife bar. He then ran the machine up under power with the result that the right end of the knife jammed into the bed while the left end was lifted and moved toward the right, thereby putting enormous pressure on the blade.

The blade bent about four inches out of line and pieces of cast iron were broken out of the knife bar and machine frame. Fortunately the knife is of two piece construction with the hard steel cutting edge backed up by mild steel, which bent but did not break.



## TRADE PUBLICATIONS IN THE SAFETY FIELD

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Circle publications desired on Reader Service Postcard.



**1. Concrete Flooring Material:** This 24-page illustrated booklet is devoted to outlining the advantages of using a concrete-flooring material with steel particles embedded in its surface. The material can be used to resurface a floor as well as being laid as an original floor. Among qualities listed are static dissemination, spark resistance, corrosion resistance and ease of cleaning. The Master Builders Co.

**2. "Weatherite Safety Signs":** 32-page catalog in full color shows hundreds of different stock-worded signs covering every conceivable hazard. Prairie State Products Co.

**3. "Bradley Group Washing Equipment":** 4-page brochure contains details and wash-room specifications for washfountains that serve 8 to 10 workers simultaneously. Multistall showers for industrial plants, schools and institutions also shown. Bradley Wash-fountain Co.

**4. Accident Prevention Signs:** Bulletin 2105: 51 illustrates a line of accident prevention signs for helping to reduce all types of accidents. Stonehouse Signs, Inc.

**5. Tower Ladder Safety Device:** Folder describing use of tower ladder safety device for workers who climb. Especially adapted for use on radio and television towers, derricks, highline towers or wherever men work at great height. Device consists of belt and locking mechanism. Safety Tower Ladder Co.

**6. "E C & M Type Z H S Motor Starters":** Motor starters having short circuit protection for 2200-5000 volt systems are described in Booklet 1062. Illustrated are starters using the E C & M 50,000 K V A interrupting capacity type Z H S contactor; also, Valimitor starters which will safely interrupt the circuit from a bus of unlimited capacity—the K V A may be infinite. The Electric Controller & Mfg. Co.

**7. Rotary Hand Pumps:** Application of rotary hand pumps to transferring liquids on many different types of jobs is discussed in this bulletin. Blackman Pump Co.

**8. Ears and Industry:** A discussion of industrial hearing loss and a program for minimizing it is the subject of this pamphlet. In addition to giving employers a quick method of determining noise levels in suspected areas, the pamphlet suggests ways of setting up testing programs within an individual industry through instrumental means. The Maico Co., Inc.

**9. Color in Your Plant Pays Dividends:** Colorful brochure describes and illustrates maintenance painting employing distinctive colors as aids to vision. Safety color code included. Company's paint categorized to fit proper coloration for varying areas. Tropical Paint & Oil Co.

**10. Truck Stair:** Climbing in and out of truck bodies is a prevalent source of accidents by truck drivers. This 4-page brochure describes how the Taco Truck Stair helps prevent injuries and cargo damage. E. D. Bullard Co.

**11. "Electri-Facts":** New 16-page illustrated brochure offered by the Clark Equipment Company presents a thorough exploration of its electric fork truck line. Construction features of the machine are interpreted through the use of schematic drawings. Clark Equipment Co.

**12. The Brunt Faultfinder:** This is an instrument used in electrical maintenance, chiefly in industrial plants, for the location of grounds in normally ungrounded electrical circuits. This booklet is well illustrated and contains complete information regarding the purpose and operation of the several models of the Brunt Faultfinder. The Parr Manufacturing Corp.

**13. Hammond Machinery:** Bulletin 324 illustrates and describes carbide grinders, no-dust grinders, diskcollectors, polishing lathes and abrasive belt grinder-polishers. Hammond Machinery Builders.

**14. Man-O Hand Cream:** Literature describes a greaseless cream containing lanolin for protecting worker's hands and arms from grime, grease, stains. Applied before starting to work it keeps chemicals from penetrating and irritating the skin and is easily removed by washing. Sabern Products Co.

**15. "McKay Welded Chain and Attachments":** Everyone who is involved in the purchasing, servicing and using of chain for materials handling and for incorporating into assemblies and other end products will want to see a copy of the new McKay Bulletin B covering the entire subject of welded chains and attachments. The McKay Co.

**16. "Boiler Water Level Controls and Safety Devices":** Catalog SC-5 covers the company's line of McDonnell boiler feeders, low water cut-offs, pump controllers and relief valves. This new publication contains engineering information, including capacity curves and roughing-in dimensions. McDonnell & Miller, Inc.

**17. Acro Safety Parallels:** Literature describes Acro Safety Parallels for drilling, tapping, counterboring, milling and grinding. Parallel support dies and jigs help speed up work. Give your hands greater freedom around the machine. Jerico.

**18. Safety Shoes:** Steel toe safety shoes in many styles are detailed and illustrated in this 2-color brochure. Ranging from men's dress, women's dress, heavy duty lace to toe, rubber footwear, cork soles, and safety boots through specialty styles such as moulder's and electrician's shoes, the brochure covers each shoe individually and includes specifications. Iron Age Div., H. Childs & Co.

**19. On-the-Job Feeding:** Literature describes equipment for inside or outdoor industrial feeding. Mobile canteens and cafeterias, food carriers and liquid dispensers illustrated. Vacuum Can Co.

**20. "Emerson Method of Artificial Respiration":** Illustrated bulletin describes resuscitator with one-lever control for operations which include resuscitation, aspiration and inhalation. Signal notes throat obstruction. Described also are extension devices for treatment in inaccessible places. J. H. Emerson Co.

**21. Air Pressure Valve:** These valves for power press guards are designed to control air pressure up to 150 lbs. The bulletin explains the advantages of the construction and discusses the manner in which the valve works. Variations on the basic valve are also illustrated and described. Hannifin Corp.

**22. Mine Ventilation Blowers:** Equipment for the primary and secondary ventilation of mines is described in this 8-page bulletin. Well illustrated, the bulletin also gives operating details and complete specifications for the various types of electric and compressed air blowers and exhausters. Coppus Engineering Corp.

**23. Industrial Emblems & Awards:** All types of plaques, trophies, emblems, tablets, medals and gift awards with special emphasis on safety awards are illustrated and described in this catalog. Identification badges are also featured. Williams Jewelry & Mfg. Co.

**24. "Skin Toughening":** Circular describes method of athlete's foot prevention through use of Onox soft sponge rubber mat for toughening the skin. Onox, Inc.

**25. Changeable Letter Signs:** Catalog showing various types of changeable display letters, mounting structures and display units. Affording a powerful point-of-sale advertising force day and night, copy changing is simple, taking but a few moments. Wagner Sign Service, Inc.

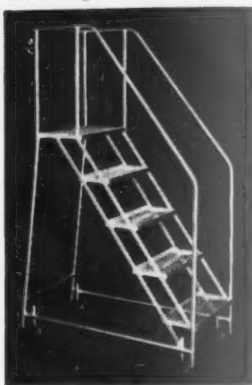
**26. Work Clothing Service:** Described in this 12-page booklet is a service for users of industrial clothing. Fire-retardant, acid-proof and regular work clothes may be rented from this national service. Uniforms, fenders, and wipe rags may also be rented. Institute of Industrial Launderers.

**27. Exhaust Purifier:** A catalytic exhaust, a device for removing carbon dioxide to permit the safe indoor operation of gasoline engines, is illustrated and described in this 4-page folder. The exhaust is available installed on new equipment or can replace present mufflers without difficulty. Oxy-Catalyst, Inc.

**28. Safety Shield:** Brochure describes a shatter-proof shield which guards the point of operation on grinding and other types of machines. Lighting, both general and focused on the work, is provided in the shield which will not allow the machine to operate until it is in working position. Junkin Safety Appliance Co.

Continued on page 116

**COTTERMAN**  
**WELDED STEEL SAFETY LADDERS**  
 For Filling Rooms—Stock Rooms—Vaults



**SAFE**  
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**EASY TO CLIMB**  
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**NON-SKID STEPS**

45"—8 Step

New improved design now being made from 1" diam. round furniture tubing.  
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 27" 3 Step, 36" 4 Step, 45" 5 Step,  
 54" 6 Step, 63" 7 Step, 72" 8 Step.

All are made in 18" 20" or 24" width.  
 Send for Circular No. 53-N and prices on these ladders and our full line of Wood Rolling Ladders.

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### New Safety Equipment Section:

On pages 107 to 113 you will find announced the new developments in industrial health and safety equipment. Careful selection is made to bring you only what's new and reliable in the safety field. Each item is identified by a number. Simply circle the numbers in the New Safety Equipment Section of the postcard corresponding to the numbers of the New Safety Equipment items you want to know more about and you'll get the information direct from the manufacturer, without obligation.

### Trade Publications Section:

Starts on page 113. Gives brief summary of interesting and helpful trade literature, catalogs, booklets, etc., in the

Industrial Safety Field. You will want many of these for reference. Each publication is identified by number. To get any one of these catalogs or booklets, just circle the numbers in the Trade Publication Section of the postcard corresponding to the numbers of the publications you want, and we will have them sent to you, without obligation, direct from the manufacturer.

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After you have read the advertisements in NATIONAL SAFETY NEWS, you may want additional information. The postcard carries numbers corresponding to the advertising page numbers. Circle the page numbers on the postcard corresponding to the page numbers on which the advertisements appear that you are interested in. Where more than one advertisement is on a page, the letters L, R, T, B give the position of each advertisement on that page, as—left, right, top, bottom.

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**AUGUST 1954**

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## TRADE PUBLICATIONS IN THE SAFETY FIELD

Continued from page 113

**29. Eye and Face Protection:** Included in this 56-page catalog are goggles, welding helmets, lenses and plates, safety shields, respirators, sweatbands, headbands and visors. Many different types of goggles for various occupations are offered. Sellstrom Manufacturing Co.

**30. Sweatband:** This brochure discusses a cellulose headband designed to absorb perspiration and keep worker cool by rapid evaporation of the moisture. The band fits any size head and may be washed and sterilized repeatedly without losing its porosity, according to the folder. American Allsafe Co., Inc.

**31. Anti-Fogging Liquid:** An anti-fogging liquid that forms an invisible coating which resists formation of fog or moisture on lens surfaces is described in this bulletin. It can be used on glasses or plastic materials. The Wilkins Co.

**32. Emergency Exit Devices:** This 2-page bulletin describes and illustrates the type N C (Narrow Concealed) panic bar hardware for single or double doors 1 3/4 inches thick. The bulletin gives full specifications for the device and for the type of door it will fit. Vonnegut Hardware Co.

**33. Safety Lenses:** An illustrated folder describing and illustrating various types of safety lenses, ranging from hardened safety glass to impact resistant plastic. Included are welding lenses and plastic and glass cover plates. Hazards against which the lenses furnish protection are explained. U. S. Safety Service Co.

**34. "Macwhyte Safe-Lock Industrial Standard Wire Rope Assemblies":** This new catalog No. 5201 illustrates and gives detailed specifications for wire rope with fittings permanently attached. Assemblies are used for operating controls, as a part of machinery and equipment, and for slings and hoists. Macwhyte Co.

**35. Wooden Orthopedic Shoe:** An illustrated folder covers several types of wooden-soled shoes designed to protect a worker's injured foot. A canvas upper that provides firm but comfortable support is attached to the sole. A steel guard is provided in some styles. Reece Wooden Sole Shoe Co.

**36. Skin Cleanser:** Literature describes how to guard against industrial dermatitis. Tells the use of skin degerming cleanser which contains the antiseptic agent, Hexachlorophene, to guard against irritation and infection. Vestal, Inc.

**37. Industrial Wiping Tissues:** Literature describes "Kimwipes," a wiping tissue for cleaning safety goggles and face masks, and which are said to be scratch-proof and lint-free. Kimberly-Clark Corp.

**38. "How to Choose the Right Glove for Each Job":** Illustrated catalog featuring the Hood glove guide shows you how to choose the right glove for each job. A complete line of rubber and plastic gloves for industrial use are featured. Hood Rubber Co.

**39. Safety Floor Maintenance:** The safety appearance and economy of the Legge system of floor maintenance are emphasized in this ready-reference folder of the company's products. Included are brief descriptions of their floor cleaners, polishers, seals, damp sweep tool and floor machines. Of particular interest also are conductive floors and anti-static devices. Walter G. Legge Co., Inc.

**40. Rubber Compound:** This notebook discusses protective clothing coated with neoprene and illustrates case histories and new applications of neoprene. Included in the bulletin are examples of the compound's resistance to oil, grease, sunlight, aging, gasoline and most chemicals. E. I. du Pont de Nemours & Co., Inc.

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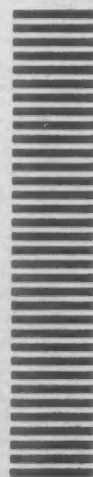
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## NATIONAL SAFETY NEWS

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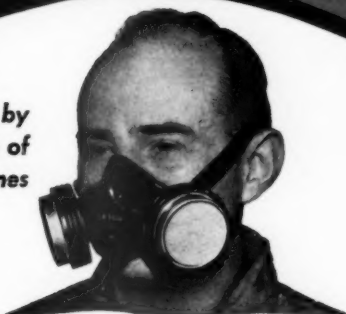


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With R57 Filters, an AO R5057 Respirator protects against 0.3 micron particles with a filtering efficiency greater than 99.99%. Particles of this size are the most difficult to filter because the effect of the various forces of deposition are minimum at this size. In the R5057 Respirator there are over 90 square inches of filtering area, providing both a low resistance to inhalation and a long service life.

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3. With R51 cartridges — protection against organic vapors and gases (Bureau of Mines Approval 2304).
4. With R52 cartridges — protection against acid gases.
5. With R53 cartridges — protection against organic vapors and gases, and acid gases.
6. With R54 cartridges — protection against ammonia and other alkali gases.
7. With R55 cartridges — protection against all dusts (not significantly more toxic than lead) and organic vapors and gases. (Bureau of Mines Approval 2305).
8. With R56 filters — protection against fumes (not significantly more toxic than lead). (Bureau of Mines Approval 2163).
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